

Intended for
Sakhalin Energy Investment Company Limited

On behalf of
Sakhalin-2 Phase 2 Project Finance Parties

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SAKHALIN-2 PHASE 2 LENDERS' INDEPENDENT ENVIRONMENTAL CONSULTANT MONITORING REPORT OCTOBER 2015

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Appendix 3

Level 1 Audit: Prigorodnoye Production Complex

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RoW Monitoring Visit Descriptions

LIST OF ABBREVIATIONS

| | |
|------------------|--|
| AFFF | Aqueous Film-Forming Foam |
| ALARP | As Low As Reasonably Practicable |
| AST | Above ground storage tank |
| BIC | Business Integrity Committee |
| BOP | Blow-out Preventer |
| BS-2 | Booster Station 2 |
| CAP | Chemicals Approval Panel |
| CLO | Community Liaison Organisation |
| CLP | Classification, Labelling and Packaging |
| CO ₂ | Carbon dioxide |
| CRI | Cuttings Re-injection (well) |
| CTA | Common Terms Agreement |
| DES | Delivered Ex Ship |
| DG | Diesel-fired Generator unit |
| DSV | Drilling Supervisor |
| ENL | Exxon Neftegaz Limited |
| ESHIA | Environmental, Social and Health Impact Assessment |
| FEED | Front-End Engineering Design |
| FOB | Free On Board |
| GMAS | Shell Group Maritime Assurance System |
| GRI | Global Reporting Initiative |
| GTT | Gazprom Transgas Tomsk |
| H ₂ S | Hydrogen sulphide |
| HoHSE | Head of HSE |
| HRA | Health Risk Assessment |
| HSE | Health, Safety and Environment |
| HSEMS | Health, Safety and Environmental Management System |
| HSESAP | Health, Safety, Environmental and Social Action Plan |
| HTF | Heat Transfer Fluid |
| HUET | Helicopter Underwater Escape Training |
| IBC | Intermediate Bulk Container |
| IEC | Independent Environmental Consultant |
| IFC PS | International Finance Corporation Performance Standards |
| IFC EHS | International Finance Corporation Environmental, Health and Safety |
| IP | Indigenous Peoples |
| IRP | Incident Review Panel |
| JVP | Joint Venture Port |
| KP | Kilometre Point (along public highway or pipeline Right of Way) |
| KPA | Korsakov Permanent Accommodation |
| LNG | Liquefied Natural Gas |
| LTI | Lost-Time Incident |
| LTIF | Lost Time Injury Frequency |
| LUN-A | Lunskoye A Production Platform |
| MDEA | Methyldiethanolamine |
| MMO | Marine Mammal Observation |
| MOF | Materials Offloading Facility |
| MPQ PLEX | Molikpaq Platform Life Extension |
| MR | Mixed Refrigerant |
| MSDS | Material Safety Data Sheet |
| NORM | Naturally Occurring Radioactive Material |
| NOx | Oxides of nitrogen |
| NTF | Noise Task Force |

| | |
|-----------------|--|
| OBM | Oil based mud |
| ODS | Ozone Depleting Substance |
| OET | Oil Export Terminal |
| OFI | Opportunity for Improvement |
| OIM | Onshore / Offshore Installation Manager |
| OPEX | Operational expenditure |
| OPF | Onshore Processing Facility |
| OPFC | OPF Compression (Project) |
| OSR | Oil Spill Response |
| OSRP | Oil Spill Response Plan |
| OVID | Offshore Vessel Inspection Database |
| PA | Piltun Astokhskiye |
| PA-A | Piltun Ashtokskoye A (production platform) |
| PA-B | Piltun Ashtokskoye B (production platform) |
| PAC | Polyaluminium chloride |
| PAO | Permanent Accommodation and Offices |
| PIG | Pipeline Inspection Gauge |
| PM | Particulate Matter |
| PMD | Pipeline Maintenance Depot |
| PMR | Pre-cooling Mixed Refrigerant |
| PNOOLR | Waste Generation Standards & Waste Disposal Limits |
| PPE | Personal Protective Equipment |
| PSA | Production Sharing Agreement |
| PSS | Platform Services Supervisor |
| PTS | Pipeline Transportation System |
| PTW | Permit To Work |
| QRA | Quantitative Risk Assessment |
| RAM | Risk Assessment Matrix |
| Ramboll Environ | Ramboll Environ UK Ltd |
| RDB | Red Data Book |
| RE | Ramboll Environ UK Ltd |
| RF | Russian Federation |
| RoW | Right of Way |
| RPN | RosPrirodNadzor |
| RTN | RosTekhNadzor |
| RUR | Russian Rubles |
| RWC | Restricted Work Case |
| Sakhalin Energy | Sakhalin Energy Investment Company Ltd |
| SD | Sustainable Development |
| SI | Social Investment |
| SIMDP | Sakhalin Indigenous Minorities Development Plan |
| SIMOPS | Simultaneous operations |
| SP | Social Performance |
| SPZ | Sanitary Protection Zone |
| STP | Sewage Treatment Plant |
| TLU | Tanker Loading Unit |
| ToR | Terms of Reference |
| TSS | Total Suspended Solids |
| UST | Underground storage tank |
| WCCP | Well Control Contingency Plan |
| WGW | Western Gray Whale |
| WGWAP | Western Gray Whale Advisory Panel |
| YTD | Year-to-date |

EXECUTIVE SUMMARY

Ramboll Environ UK Limited (Ramboll Environ) 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, Ramboll Environ undertakes:

- Biennial 'Level 1' audits of selected Project facilities.
- Annual Project monitoring visits that cover a range of project activities, assets, programmes and plans.

A combined Level 1 audit and Project monitoring site visit was conducted from 6th to 14th October 2015 and focused on the following aspects (the full Terms of Reference and schedule are presented in Appendix 1):

Level 1 Audits

- Lunskoye A (LUN-A) platform
- Prigorodnoye Production Complex

Full reports from the audits of these facilities are presented in Appendices 2 and 3 respectively.

Monitoring Visit

- Environmental monitoring
 - Pipeline right of way (RoW)
 - Onshore Processing Facility (OPF)
- Social performance monitoring
 - Social Performance progress overview
 - Community Liaison structure and Information Centres
 - Community Grievance Procedure
 - Stakeholder Engagement, including engagement with Japanese stakeholders and the 'Stroitel' Dacha Cooperative
 - Indigenous Peoples and implementation of the Sakhalin Indigenous Minorities Development Plan (SIMDP)
 - Social investment (SI) programme.
- Other project updates, including:
 - Environmental Performance
 - New projects and project expansions
 - Waste management
 - Monitoring strategies
 - Western Gray Whales.

This report presents the findings of the site visit, and in addition provides:

- Opportunities for Improvement (Section 7). A number of opportunities for improvement (OFIs) have been identified 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 where information/documentation was not available at the time of the site visit (Section 8).

- An updated Findings Log (Section 9). 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 towards the closure of open Findings was reviewed and the updated status of the Findings is provided in a revised Findings Log. The Findings Log has been updated following this audit and monitoring visit.
- Follow-Up Items (Section 10), which are neither Findings nor Opportunities for Improvement, but a list of topics or issues that Ramboll Environ intends to follow up on, either as part of future audits or monitoring visits or by requesting further information from the Company (as and when available).

Overall we conclude that Sakhalin Energy continues to achieve a high-level of compliance to Lender standards and the HSESAP across the range of its facilities and activities. This is achieved through strong leadership within the HSE Department supported by a dedicated team of HSE and Social Performance professionals. While a number of issues have been identified that are described in this report, these are generally opportunities for improvement and of minor significance, although a small number of Findings of greater significance were identified. Good progress was also noted on most previously identified issues.

A brief summary of project status and performance is provided below on a topic-by-topic basis. For each topic we identify any Findings and also summarise some of the more noteworthy opportunities for improvement and follow-up items.

Pipeline Right of Way Site Visit

The October 2015 site visit to the pipeline RoW was an abbreviated monitoring visit and concentrated on the general condition of the RoW and progress made in tree growth removal. Monitoring also included visits to selected river crossings, Category 1-3 repair works and general wetlands observations.

Overall, the management of tree growth on the RoW was observed to be much improved, including the use of less disturbing hand-held tools, and on this basis we recommend that this issue is now closed from the Findings Log but remains an ongoing monitoring item.

Geojute matting (made of jute fibre) and coco matting (made of coconut fibre) can assist in stabilising un-vegetated soil while promoting the establishment of vegetation. In most areas the matting was observed to be performing well and vegetation is being re-established. In other areas (e.g. KP514) the matting has biodegraded before strong re-vegetation has occurred and in such cases we recommend that Sakhalin Energy considers whether the matting should be replaced and/or other re-vegetation techniques applied to prevent future erosion.

The condition of river crossings continues to improve year on year, and the improving vegetation cover on the riverbanks themselves and adjacent RoW are contributing factors to the continuing stability of the banks. The river bank protection measures (including riprap, Reno matting and gabion walls) observed during the monitoring visit were of a generally good standard. Only a minor deterioration of reno matting was observed at one river (Djimdan River). The Company is reportedly regularly monitoring all such locations and conducting repairs where needed.

An ongoing concern is erosion control of sandy slopes that have partial or poor vegetation cover, for example at the southern approach to the Evai River crossing where an erosional channel is developing, and at KP 514 where additional re-vegetation efforts and maintenance of drainage and erosion control are considered to be required.

Observations during visits to a small number of wetlands indicated that habitat conditions and recovery of the wetlands is continuing to improve.

Onshore Processing Facility Site Visit

As part of the monitoring visit, Ramboll Environ conducted a visit to the Onshore Processing Facility (OPF) located in the central, eastern side of Sakhalin Island. The site walkover was limited by severe weather conditions, including high winds and heavy rain, and so the focus of the visit was limited to the following aspects:

- Oil and chemical storage
- Waste management
- Worker accommodation for OPF Compression Project
- HSE initiatives
- Incidents and breaches
- Road safety

Ramboll Environ conducted a brief walkover inspection of a 'fly camp', under preparation to house workers who will refurbish the main worker camp at the site ready for the commencement of the OPF Compression Project construction. The fly camp appeared to be of a good standard in terms of planned density per room, sanitary facilities, catering facilities, leisure facilities and welfare provision. The accommodation standards of the separate camp ('TSS camp') housing workers refurbishing the fly camp were generally acceptable for the short term, although fell below the high standards observed in the OPF permanent accommodation and partially-refurbished fly camp cabins.

Ramboll Environ noted high standards of chemicals storage and management across the OPF site, including a number of good practice examples at the PMD, and also in the storage and management of wastes.

Overall Ramboll Environ formed a very positive impression regarding the significant efforts made by the asset in relation to road safety. We also note the high quality of the HSE Inductions provided for all areas of the plant.

Notwithstanding our overall positive opinion, the following non-compliance was identified:

- **FINDING:** Ramboll Environ observed a clear need for urgent improvements to drainage and erosion control arrangements around the temporary construction camp. The fly camp area was water-logged and rivulets of silt-laden water were flowing across the camp area and into surrounding drainage ditches. These drainage ditches were not properly constructed, with no side-wall protection (vegetation, geotextile or ballast) and the check-dams in place were not frequent enough, nor properly formed. Furthermore, there was no settlement pond in place, nor any de-watering procedures or other silt reduction measures in place to reduce the silt load in the ditches. Ramboll Environ observed at least one location where silt-laden water was exiting the OPF site to the north and entering what appeared to be a natural stream. Such a discharge is not compliant with the HSESAP and urgent action is required to rectify this situation.

We also identified a number of Opportunities for Improvement, the most noteworthy of which are summarised below:

- It was reported by Sakhalin Energy Construction staff that top soil and sub-soil storage from the OPF Compression Project take place in the area north of OPF used for original OPF construction. However, no Soil Management Plan has been developed in order to properly assess and plan for exactly where, how, and for how long the material should be stored, and what measures are needed to minimise erosion. Such a plan is required.
- The capacity of current Waste Transit Area should be assessed ahead of commencement of OPF Compression Project construction. Site personnel interviewed (Operations and

Construction) were not clear as to the strategy for accommodating waste from both a fully operational OPF and an active OPF Compression Project. Additional capacity is likely to be required either at the same location or a separate purpose-built location.

- It was observed that the accommodation cabins under refurbishment on the eastern side of the fly camp will be in close proximity to a haulage road, and that at the peak of site preparation works, there will be 24 hour truck movements along this road. It is recommended that Sakhalin Energy Construction conducts a risk assessment, supported by noise monitoring, to determine whether or not workers accommodated in these cabins will be adversely impacted by traffic noise from this road. Depending on the results of the assessment, noise mitigation measures may be required (e.g. particular road surfacing, noise barrier, noise dampening measures on the cabins themselves).

Other identified Opportunities for Improvements are described in the report and relate to appropriate storage of hydrocarbons and chemicals, and control of storage areas.

Social Performance

Ramboll Environ monitors Sakhalin Energy's social performance on an annual basis to verify fulfilment of the HSESAP commitments. A dedicated review of social performance programmes was not included in the 2015 site monitoring visit, although office discussions were held with Sakhalin Energy's Government and Shareholders, External Affairs Division and informative presentations were delivered.

Overall, we conclude that the Company continues to successfully operate a number of community focussed programmes, activities and engagements, demonstrating its ongoing commitment and a high level of social performance. The following updates are considered noteworthy:

- In 2014, the CLO was reconfigured into a *Community Liaison Structure* with key roles undertaken by specialists in the following teams: the Social Performance Subdivision and the Communications, Stakeholder Engagement and Event Management Subdivision. The Community Liaison Structure continues to operate all 23 Information Centres, which continue to be well-used by the public. Information Centre staff are provided with regular training, which in 2014 included a specific session in relation to the OPFC Project.
- Sakhalin Energy continues to operate its well-established Community Grievance Procedure that allows the receipt, investigation, tracking, assigning of actions and addressing of complaints from the external public. All grievances finalised during 2014 and 2015 (to end-September) were concluded within the period stipulated by Community Grievance Procedure (45 working days).
- In 2015, annual public meetings were held in 11 communities, attracting a total of 68 participants. Other ongoing engagement activities include the Community Awareness Programme (CAP), intended primarily to promote public awareness of safety requirements in relation to the Project, and development and publication of the Sakhalin Energy Sustainable Development (SD) Report. Sakhalin Energy continues to engage with Japanese stakeholders and the *Stroitel* Dacha Co-operative located in the vicinity of the Prigorodnoye Production Complex.
- External monitoring of the Sakhalin Energy Sakhalin Indigenous Minorities Development Plan (SIMDP 2) was undertaken in May-June 2015 (final evaluation) and development of the SIMDP 3 (2016-2020) is underway. During the monitoring visit, Sakhalin Energy reported on a number of notable events, recognitions and awards relating to its work with Indigenous Peoples (IP).
- The Company has reported that its "*What to do in Emergency Situations*" programme, implemented under its Social Investment (SI) Programme, has been recognised as the winner

of KonTEKst PR projects competition, which is held under the aegis of the Russian Ministry of Energy. It has also been included in the "*Best Social Projects in Russia – 2014*" Book along with "*Five Centuries of Russian Art*".

Environmental Performance

Flaring – At the time of the site visit, year-to-date (the end September 2015) cumulative flaring across all assets was less than 3 bscf, which is similar to performance in 2014 (despite a planned maintenance shutdown of Train 2 in July 2015 that necessitated flaring) and less than the equivalent period in each of the three years prior to 2014. This demonstrates the achievements made by the Company in flaring minimisation, and the Company is currently on course to meet the 5% flaring target in 2015.

Sewage Treatment – Offshore – As previously reported, discharge levels of certain parameters from the sewage treatment plant (STP) on the LUN-A and PA-B platforms do not meet RF permit limits. Sakhalin Energy has undertaken a cost-benefit analysis and determined that replacement of the STP is uneconomic. On this basis, a derogation to allow continued operation of the current STP (with associated payment of fees) was agreed with lenders earlier in 2015. At that time, Sakhalin Energy also noted that it was in negotiation with the RF authorities to agree to increased discharge limits in its licences, but no further update was available at the time of this site visit.

Sewage Treatment – Onshore

- **FINDING:** Sakhalin Energy has reported compliance issues with discharges from a number of its onshore STP, including at its staff accommodation facilities in Yuzhno-Sakhalinsk (Zima) and Korsakov (KPA), at BS-2 and PMDs. The Company has developed action plans to resolve these issues, which include:
 - Zima: change of discharge from a fisheries class stream to a lower class stream (and hence with less stringent discharge criteria)
 - KPA: Develop a new water application package with the aim to agree less stringent discharge limits with the authorities
 - BS-2 and PMDs: Develop STP improvement programmes to return plant to compliance.

The authorities have reportedly advised since the site visit that the stream identified for future Zima STP discharge – the Pravy Stream – is also of fisheries class. Sakhalin Energy is therefore continuing to discharge to the original stream until its discussions with the authorities regarding the Pravy Stream's classification are resolved. If the classification is amended, the Company aims to change the discharge point and obtain new permits by the end of 2016.

Discharge of treated water to land – As previously reported, a change in the regulatory procedure for environmental permitting has resulted in the Company being unable to obtain valid permits for its ongoing discharge of treated water to ground at its onshore facilities. However, it was reported during the site visit that new environmental legislation is coming into force from January 2016 resulting in no legal basis for pollution payments for discharge to land. Sakhalin Energy's interpretation of the new law is that there is no express prohibition for discharge to land and therefore plans to apply for new discharge permits for the continued discharge of treated water to land under the new legislation, although the Company is also considering alternative wastewater disposal options such as discharge to waterbodies in case permits are not granted.

Cuttings Re-injection – Sakhalin Energy has been re-injecting (disposing of) drilling and other production waste since 2004 into dedicated cuttings re-injection (CRI) wells at each of its offshore platforms. However recent amendments to RF waste management laws have led to CRI wells being registered as waste disposal facilities, resulting in norms, limits and passports being required, in addition to the payment of fees. Sakhalin Energy has not previously made such payments citing that re-injection of drilling and other waste into deep formations excludes any

negative environmental impact. The Company proposes to make efforts to ensure the inclusion of re-injection via CRI wells into the register of the best available technologies under RF law, thus exempting it from fees. (Ramboll Environ agrees that re-injection of waste should be considered as good practice.)

Well Control – Sakhalin Energy provided a presentation on updates to its well control contingency plan (WCCP) that covers well control events and their direct consequences on the LUN-A, PA-A and PA-B platforms. We recommend that the updated quantitative risk assessment (QRA), when available, is reviewed by the lenders' technical and/or reserves consultants, and that the Company uses the results of the QRA exercise to update the spill risk profiles in its oil spill response plans (OSRP) as appropriate.

Monitoring Strategies – Sakhalin Energy has a range of biodiversity/ecological monitoring programmes in place, which are defined within a number of terrestrial and offshore Monitoring Strategy Reports. The most recent revisions to the suite of Monitoring Strategy Reports have all been updated and agreed with the exception of the offshore monitoring programme, which is still under review and discussion between the Company and Ramboll Environ.

Ongoing discussions primarily relate to monitoring requirements around the LUN-A platform following a historical mud-loss incident in March 2013. Seabed sediment contamination and benthic biota monitoring in 2013 indicated elevated concentrations of hydrocarbons in sediment near LUN-A, but that concentrations had fallen significantly by the time of the 2014 survey. Further monitoring in 2015 is proposed to verify recovery. It is recommended that data from long term monitoring is 'contextualised' with additional survey data taken from other platforms and control sites to assess whether any apparent effects are specific to the vicinity of the LUN-A Platform and caused as a result of Project activities. Ramboll Environ will update lenders on the final agreement of the offshore monitoring programme in due course.

New Projects and Project Expansions

Discussions were held with Sakhalin Energy in relation to the following new projects and project expansions. A brief status update is provided for each topic below, along with Findings and Opportunities for Improvement where identified:

OPF Compression (OPFC) Project – the OPFC Project is nearing the end of the Front-End Engineering and Design (FEED) stage (99% complete) and the contract for early works is currently out to tender (contract award target end of 2015). The updated OPFC Project ESHIA was provided for review shortly after the monitoring visit.

LNG Train 3 – It is currently conceptualised that gas from Sakhalin-3 and/or Sakhalin-1 would enter the Sakhalin Energy system at/near the Sakhalin Energy OPF for transport south to the LNG site via the existing Sakhalin Energy gas pipeline. Target FEED and start-up dates are 2017 and 2021 respectively. The Company is also considering batch export of condensate (as opposed to mixed oil/condensate export as currently occurs) which could be transported to the oil export terminal via the existing oil pipeline. The need to develop and assess the Train 3 Project in line with applicable international lender standards is understood by Sakhalin Energy. We note that this would be required for both the Phase 2 lender group (as a project expansion) and for potential future lenders, should project financing be sought for the Train 3 Project. Two items that we would stress at this stage in relation to the Train 3 project, however, are:

1. While the upstream facilities to provide gas to the Sakhalin Energy system would not be part of the Train 3 project itself, it is very likely that under the IFC Performance Standards (and other international lender standards) these facilities would need to be considered as associated facilities. Depending on the nature of the upstream facilities, this could include upstream field developments, treatment facilities and pipeline systems. We recommend that

the issue of potential associated facilities be considered at an early stage of the project development.

2. The addition of a third train at the LNG facility will lead to increased air and noise emissions, which in turn have the potential to result in an increase in the SPZ around the Prigorodnoye Production Complex. We recommend that Sakhalin Energy undertakes early air quality and noise modelling to provide an early indication as to whether any increase in the SPZ may affect the local dacha community and specifically whether this may lead to any resettlement being required. Timely communication with the dacha communities is also recommended in relation to Train 3.

Molikpaq Platform Life Extension (MPO PLEX) – MPO PLEX comprises a range of investments to ensure that the platform's operating lifetime is assured until 2041. The nature of these activities is unlikely to be the source of significant environmental impact, although they will nonetheless need to be considered in terms of any potential impacts on the Western Gray Whale (WGW) through the Western Gray Whale Advisory Panel (WGWAP) process.

Gas Pipeline Blowdown Project – The RF-required installation of facilities to the 48" gas pipeline that allow sections of the pipeline to be purged of gas in the event of emergency or intrusive repair. Air and noise dispersion studies are to be carried out in order to determine effects on nearby residences. While recognising that such venting would only be performed in emergency or major pipeline repair scenarios, Ramboll Environ also recommends that the modelling be reviewed when available to confirm whether noise impacts could affect sensitive and/or protected nesting bird species such as Steller's Sea Eagles and, if so, what mitigation measures could be developed.

Waste Management – Ramboll Environ has previously reported to lenders on significant issues in relation Sakhalin Energy's management strategy for non-hazardous waste that have resulted from (i) capacity issues at the Korsakov landfill, and (ii) legal restrictions that have stopped disposal of Company waste to the Smirnykh and Nogliki landfills. After a number of delays and revisions over the previous two years, it is positive to note that the Company has now confirmed its medium term waste management strategy and that it has selected two waste contractors that will transport waste to waste management facilities on mainland Russia.

Sakhalin Energy's proposed longer term strategy is to develop its own waste facilities at the OPF and Prigorodnoye Production Complex. The Company's original plan was that these waste facilities would be developed as part of the planning approval process for the OPFC and LNG Train 3 projects respectively. However, it is now acknowledged by Sakhalin Energy that delays in the development of this waste option mean that it will now not be able to develop a waste management facility at the OPF as part of the OPFC project.

- **FINDING:** The development of a waste management strategy in the north of the island is now a critical and urgent issue to be addressed by the Company in order to ensure that OPFC project construction wastes are to be appropriately managed. In the longer term, the development of a waste management facility by Sakhalin Energy may also be less well supported by the local authorities than if it had been developed as part of the wider the OPFC project.
- **FINDING:** We further note that the suggested location for the waste management facility at the OPF is in an area that has been identified in the OPFC project draft ESHIA as the site of a red data book (RDB) lichen species, and also one of the areas identified as a possible relocation/offset site for lichen habitat loss anticipated for the OPFC project. This both emphasises the need for greater communication between different development projects' teams within the Company and also the need for further options appraisal for the development of the waste management facility.

Western Gray Whales

During the site visit Sakhalin Energy provided an overview of:

- The 2013-2015 Joint Programme for western gray whale (WGW) that it operates with Exxon Neftegaz Limited (ENL)
- The Marine Mammal Observation (MMO) programme
- The 4D seismic survey undertaken in spring 2015

Ramboll Environ will also report to lenders separately on the WGWAP-16 meeting held after the site visit in November 2016 (we will provide a detailed report only after the formal Panel report from WGWAP-16 is made available, which is anticipated in January 2016).

LUN-A Platform Audit

Ramboll Environ undertook an environmental audit of the Lunskeye-A (LUN-A) production platform between the 7th and 8th October 2015. The environmental audit assessed the Company's compliance with material environmental law and the Sakhalin Energy Health, Safety, Environment and Social Action Plan (HSESAP). This audit report is presented as Appendix 2 to this Monitoring Report.

Overall, Ramboll Environ identified that environmental performance at LUN-A is good and that managers, platform workers and working practices on the Platform indicated a strong HSE culture. There was a good level of compliance with environmental law and the requirements of the HSESAP with the following exceptions:

- ***FINDING:*** A known issue exists in relation to the Sewage Treatment Plant (STP) on LUN-A and compliance with the Platform's Wastewater Discharge Licence (Lenders' Finding WATER.12 from October 2013). The Platform's STP has struggled to meet the limits for ammonia nitrogen, phenols and phosphates again in 2015, with multiple exceedances recorded and financial penalties imposed by the authorities. The Company has provided a business case to lenders demonstrating that replacement of the STP is not cost-effective (Fountain Action #848242 under the above Finding). Sakhalin Energy has instead developed and submitted an application package to the authorities to review the Water Use Permit and increase the pollutant concentration limits; the results of this application are pending. Lenders have accepted this approach.
- ***FINDING:*** As of August 2015, the Platform's cooling water discharge year-to-date had exceeded the relevant licence limit by 60%. An application package to obtain a new water discharge permit (within increased limits) has been developed and submitted to the authorities for approval. Sakhalin Energy expects to have the new permit in place by the end of 2015.
- ***FINDING:*** Potable water quality test results reported in August 2015 indicated a non-compliance in relation to chloroform in the Platform's hot water supply. An internal investigation concluded that the non-compliance was most likely caused by the use of incorrect sampling containers and that new specifically-designed glass containers were to be used to resample in mid-October 2015. The issue was not only isolated to LUN-A, but also affected other Sakhalin Energy assets. As a precaution, the Platform's fresh water treatment system was subjected to a non-routine inspection.

In addition, a number of Opportunities for Improvement are identified in the audit report, the more noteworthy of which are summarised below:

- Due to space restrictions, chemical storage practices in the main storage area for drilling-related chemicals in the Drilling Module include storing chemical drums on wooden pallets stacked two or three pallets high and two pallets deep. Such arrangements are not

considered to constitute "good site practices... to minimise the risk of accidental spills occurring" as required by the HSESAP. Reportedly, the Platform has considered several options to improve the situation, including racking systems, however no solution had been identified to date. Further research into racking systems and/or specialist advice is recommended in order to identify a solution to this issue (based on the principle of ALARP).

- It is recommended that all reports generated from audit and inspection activities clearly state the level of audit/inspection that was conducted, an audit reference (taken from the annual assurance plan) and the scope and purpose of each exercise.
- The Water Use Standard within the HSESAP states that "Oil Based Muds (OBM) shall not be used". It is clear that OBM are being used at LUN-A (albeit in sections from 22 inches and below). The wording within the HSESAP should be reviewed and clarified accordingly at the next update (noting that all updates to the HSESAP would need to be agreed by lenders).
- It is recommended that the known and potential environmental impacts of the CRI situation at LUN-A (i.e. the potential fracking event) and the subsequent inter-platform transfer of cuttings and other fluids (i.e. additional vessel fuel use and emissions and potential for spills during transfer activities) be appropriately assessed and the outcomes and lessons learned documented and shared through Sakhalin Energy's knowledge sharing system. The Auditor was not able to ascertain for example, whether the inter-platform transfer could have been prevented with earlier identification of the need for a replacement CRI well for LUN-A.

Prigorodnoye Production Complex Audit

Ramboll Environ undertook an environmental audit of the Prigorodnoye Production Complex between the 12th and 13th October 2015. This audit report is presented as Appendix 3 to this Monitoring Report.

Overall, Ramboll Environ identified that environmental performance at the Prigorodnoye Production Complex is good and that managers, plant operatives and working practices at the site indicated a strong HSE culture. There was a good level of compliance with environmental law and the requirements of the HSESAP with the following exception:

- ***FINDING:*** During Ramboll Environ's October 2014 monitoring visit, it was observed that one of the permanent sewage treatment plant (STP) units was under maintenance. During the maintenance period, untreated sewage was being diverted to one of the older BR-200 treatment units via an aboveground temporary divert hose. This was raised as Finding WATER.15 in the lenders' Findings Log. At the time it was reported that the Company had already developed plans for a permanent underground pipe network to enable transfer of incoming sewage between the different units during maintenance periods.

During the current 2015 audit, the temporary divert hose was observed to be still in-situ between the two STP, seemingly contrary to update information provided by the Company in February 2015. The temporary hose crosses a number of storm water drainage ditches and was now observed to be exhibiting signs of wear and tear. The temporary hose represents a risk of a leak of untreated sewage to the environment and the longer it remains in use (now into its second year) the greater the risk of an incident (as the hose deteriorates and the chance of accident damage continues, e.g. by vehicle or storm). Sakhalin Energy has since advised that the hose is only in place during the summer period and only used during STP shut down or minor maintenance activities. It is reportedly visually inspected for damage before use and replaced if defects are found, and removed during the winter period. This finding will remain open until completion of the permanent underground pipework between the treatment units, due for implementation in 2018.

In addition, a number of Opportunities for Improvement are identified in the audit report, the more noteworthy of which are summarised below:

- There appears an element of uncertainty and inconsistency around the different levels within the Integrated Assurance Plan, in terms of the level and name of each exercise and corresponding reports (i.e. "audit" versus "inspection") and who is responsible for developing the scope and leading each level (i.e. Central HSE or Asset HSE). Whilst it appears that the assurance plan is being implemented, this uncertainty/inconsistency meant that Ramboll Environ was not able to verify progress year-to-date (YTD) against the plan. From discussions with facility personnel, the Auditors identified that there may be an opportunity to promote shared learning if selected Level 3 and 4 audit/inspection action findings captured in the Asset-level HSE Action Tracking System should also be added to the Fountain system (i.e. where lessons can be learnt that are applicable to other assets). At the closing meeting of the IEC monitoring visit, subsequent to the audit, Sakhalin Energy management reported that this opportunity had already been identified by the Company and work was underway to alter the HSE-MS accordingly.
- Review of incident records for a minor diesel fuel spill (incident reference 1283180) identified a lack of recorded information of immediate response actions to deal with the spill (thought to be contained within secondary containment) and also some apparent discrepancies in the information provided in the quarterly HSE report (Risk Assessment Matrix rating and number of actions identified). Sakhalin Energy should ensure that all incident reports clearly identify the immediate actions taken in response to environmental incidents, including oil/chemical spills. The Company should also ensure consistent reporting within the lender HSE reports.
- A number of redundant buildings / infrastructure associated with defunct sewage treatment facilities used during the construction phase are still present in close proximity to the operational STP. The derelict condition of these structures poses a potential health and safety risk to personnel working in the area and we recommend that they be removed and the site area restored.
- The Auditors observed a 205 litre drum of waste oil being delivered to Building 10 during the audit. The drum was being transported in the bucket of a Bobcat vehicle without any form of strapping/device to secure the load. Furthermore, the slotted drain over which the vehicle was parked, whilst the drum was offloaded, was identified as a storm drain that discharges directly to a natural drainage ditch. Given the hazardous waste transfer activities that take place in this area, it is recommended that the Company gives consideration to installing a pen-stock valve so that the drain can be isolated in the event of a spill.
- It was reported that cut grass and other vegetation from grounds maintenance activities is disposed of to landfill. Given the capacity restrictions at Korsakov Landfill, opportunities to divert this organic waste from landfill should be explored (e.g. composted on site or provided to local farms). Sakhalin Energy has agreed to test options to divert fresh grass cuttings to a local farmer.
- While in general across the facility, safety signage was observed to be good, the Auditors noted that the hearing protection sign was missing from the entrance to one of the two main STP buildings. The Auditors observed an operative accessing the building without using hearing protection. The sign was observed on the door to the other building.

1. INTRODUCTION

Ramboll Environ UK Limited (Ramboll Environ) 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, Ramboll Environ undertakes:

- Biennial 'Level 1' audits of selected Project facilities.
- Annual Project monitoring visits that cover a range of project activities, assets, programmes and plans.

A combined Level 1 audit and Project monitoring site visit was conducted from 6th to 14th October 2015 and focused on the following aspects (the full Terms of Reference and schedule are presented in Appendix 1):

Level 1 Audits

- Lunskoye A (LUN-A) platform
- Prigorodnoye Production Complex

Full reports from the audits of these facilities, with executive summaries, are presented in Appendices 2 and 3 respectively.

Monitoring Visit

- Environmental monitoring
 - Pipeline right of way (RoW)
 - Onshore Processing Facility (OPF)
- Social performance monitoring
 - Social Performance progress overview
 - Community Liaison structure and Information Centres
 - Community Grievance Procedure
 - Stakeholder Engagement, including engagement with Japanese stakeholders and the *Stroitel Dacha* Cooperative
 - Indigenous Peoples and implementation of the Sakhalin Indigenous Minorities Development Plan (SIMDP)
 - Social investment (SI) programme.
- Other project updates, including:
 - New projects and project expansions
 - Waste management
 - Environmental Performance
 - Monitoring strategies
 - Western Gray Whales.

This report presents the findings of the site visit, and in addition provides:

- Opportunities for Improvement (Section 7). A number of opportunities for improvement (OFIs) have been identified 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 where information/documentation was not available at the time of the site visit (Section 8).

- An updated Findings Log (Section 9). 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 towards the closure of open Findings was reviewed and the updated status of the Findings is provided in a revised Findings Log. The Findings Log has been updated following this audit and monitoring visit.
- Follow-Up Items (Section 10), which are neither Findings nor Opportunities for Improvement, but a list of topics or issues that Ramboll Environ intends to follow up on, either as part of future audits or monitoring visits or by requesting further information from the Company (as and when available).

2. LEVEL 1 AUDITS

Level 1 Audits were undertaken at two facilities, namely the LUN-A platform and the Prigorodnoye Production Complex (comprising the Liquefied Natural Gas (LNG) facility and Oil Export Terminal (OET)).

Full reports from the audits of these facilities are presented in Appendices 2 and 3 respectively.

OFIs, data requests, Findings and follow-up items from the audits are summarised alongside those of the monitoring visit in the main body of this report.

3. PIPELINE RIGHT OF WAY MONITORING

3.1 Introduction

The October 2015 site visit to the pipeline RoW was an abbreviated monitoring visit and concentrated on the general condition of the RoW and progress made in tree growth removal. Monitoring also included visits to selected river crossings, Category 1-3 repair works and general wetlands observations.

The full list of locations visited, together with summary descriptions of our observations from each location, is presented in Appendix 4.

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

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

3.2 Biological Reinstatement

3.2.1 Overview

Following a trend of continuing improvement over the preceding years, observations during the current monitoring visit indicated further improvements in vegetation cover and progress in RoW clearance of tree saplings.

3.2.2 Tree Growth

Starting in 2015, tree removal is now reportedly performed using hand held equipment only. This is a change from previous years when tracked mechanised cutting equipment was also used. As noted in previous monitoring visits' reports, the tracked mechanical method resulted in soil disturbance and a loss of other (non-tree) vegetation. The current hand held equipment removal method avoids soil disturbance and the loss of non-tree vegetation.

It was observed that trees/saplings are cut at approximately 10 to 15 cm above ground (Photo 1) and that the cuttings are temporarily stored in piles on the RoW. The Company reported that the piles are being shredded/mulched using a shredder powered by a Bobcat. The shredding activities were not observed during the visit but shredded cuttings were observed spread on the RoW.

Sakhalin Energy reports that during the 2015 season tree/saplings were removed from approximately 300 Ha and that the Company plans to maintain this level of effort going forward.

An area that was previously cleared using the mechanised method is now observed to be recovering (Photo 2).

Follow-Up Item: While tree control on the RoW will remain an ongoing issue, the Company does now appear to have maintained the issue of tree growth at a steady level. On this basis we recommend that this issue is closed from the Findings Log (LAND.17) but remains an ongoing monitoring item.



Photo 1 – KP 64 – RoW section with high concentration of tree saplings cut by manual means. Note the grass in place



Photo 2 - KP 63 - RoW section where tree saplings were two years ago removed by tracked, mechanised methods. The non-tree vegetation is now showing recovery

3.2.3 Steep Slopes

Due to the abbreviated nature of this year's monitoring schedule, only a limited number of slopes were observed. These were in the vicinity of Nogliki and the OPF in the north, and near Sovietskoy PMD in the south. In the north, slopes were observed at KP 87–88 and KP 96.5, and in the south at KP 504 (Kirpichnaya River valley), the Sovietskoy Ridge at KP 510.5, the Ai River at KP 511 and KP 514 (sandy slopes north of the Ai River). Appendix 4 provides descriptions for these and other slopes.

In general the observed slopes (with the exception of sandy slopes at KP 514, see below) had good vegetation cover and drainage and erosion control in the form of slope breakers.



Photo 3 - KP 87 - good vegetation cover observed on steep slope



Photo 4 - KP 510.5 - Sovietskoy Ridge - Steep slope with good slope breakers and vegetation cover

3.2.4 Sandy Slopes

An ongoing concern is erosion control of sandy slopes that have partial or poor vegetation cover. The issue is not limited to those with a steep gradient – gentle slopes of sandy soil readily develop erosional features when vegetation cover is not adequate. One example of this was seen at the southern approach to the Evai River crossing where an erosional channel is developing on a gentle sandy slope towards the river (Photo 5).

Other sandy slopes observed during this visit were at KP 514 where a combination of steep (but short) slopes and sandy soil with partial vegetation cover is considered to require additional re-vegetation efforts and maintenance of drainage and erosion control. This issue is being tracked as Finding LAND.16.



Photo 5 - KP 48 - Showing erosional channel on a gentle sandy slope



Photo 6 - KP514 - Showing partial vegetation cover on sandy slopes

3.3 Wetlands

The recovery and condition of wetlands was one of the focal points of the 2014 monitoring visit, and a significant improvement was noted in comparison with previous years. This October 2015 monitoring visit observed some of the wetlands previously visited, but to a much lesser extent. Observations during the visit were that habitat conditions and recovery of the wetlands is continuing to improve (Photo 7). Since improvement in such habitats is a slow process, an in-depth review of condition should be conducted some years apart.

The wetlands observed during this visit included those in the Dagi and Djimdan river valleys, and those along the RoW between KP 149 and KP 151 northwest of the OPF. Wetlands at both of these locations appear to show continuing improvement. These and other locations are listed and described in Appendix 4 of this report.



Photo 7 - KP 150 a view south across the RoW showing the recovering wetland with an area of undisturbed wetland in the background

3.4 Drainage Control

3.4.1 Slope Breakers

Slope breakers continue to play an important role in managing slope drainage and providing erosion control. During the October 2015 visit, slope breakers at sites on the RoW were mostly found to be in good condition and together with vegetation cover provide good drainage and erosion control. Good examples can be seen in Photo 8 of the slopes at KP 97 south of Djimdan River and Photo 9 of the slope in KP 502 south of the Kirpichnaya River.



Photo 8 - KP 97 showing steep slope with slope breakers



Photo 9 - KP 502 showing a slope with good slope breaker construction

3.4.2 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 October 2015 monitoring visit the use of both types of matting was observed in several locations. In most areas the matting is performing well and vegetation is being re-established. In other areas there is significant deterioration in the condition of the matting, which is a natural course of events. However the soil on which the matting was placed is still mostly bare (for example side cuts around KP 514, as shown in Photo 10).

Opportunity for Improvement: Sakhalin Energy could consider the value of replacing the deteriorating geojute on the side cuts in the vicinity of KP 514 and using better placement and re-vegetation technique.



Photo 10 - View of one of the side cuts in the vicinity of KP 514 showing deteriorating geojute and bare side cut

3.4.3 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 stabilise slopes and side cuts of varied steepness, sometimes in conjunction with hydro-seeding.

Evidence of erosion was observed on the side cut at the fault crossing at KP515. Repair using geotextile should be considered at this location to stabilise the slope.

3.4.4 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.

As in the previous year's monitoring visit, no silt fencing was observed during the October 2015 visit. This is a positive finding as silt fencing would not have been needed nor been useful at any of the river locations visited. As recommended in the 2014 monitoring report, Sakhalin Energy should continue its on-going programme of conducting a site-specific evaluations of whether to continue the use of silt fencing. If the continuing presence of silt fencing in a specific location is no longer needed, then it should be removed.

3.4.5 River Crossings

During previous monitoring visits in September 2013 and October 2014, river crossing locations including riverbank stabilisation works were found to be in good condition. The October 2015 site visit found that the condition of river crossings continues to improve. The improving vegetation cover on the riverbanks themselves and on the adjacent RoW are contributing factors to the continuing stability of the banks. 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. A good example that was identified during the site visit was at the Kirpichnaya River (see Appendix 4).

Reno Matting

Observations during the October 2015 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 helps 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 many in good condition.

Only a minor deterioration of reno matting was observed during the visit (Djimdan River). The Company is reportedly regularly monitoring all such locations and conducts repairs where needed.

Gabion Walls

Gabion walls are an effective stabilisation method for riverbanks and certain slopes, and are used extensively along the pipeline RoW. Gabion walls have been observed during previous visits and most were in good condition, providing the bank/slope protection that is required.

Only one Gabion wall was observed during this monitoring visit, located on a side slope along the RoW at KP 87 to 88 and is used for slope stabilisation. The wall was only viewed from the road and was not inspected in detail.

3.4.6 Geotechnical Works

Sakhalin Energy and its contractor Gazprom Transgas Tomsk (GTT) 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 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 (e.g. repair of reno matting), and repair of landslides and slope failures.

During the October 2015 monitoring visit a recent, mostly complete Category 3 Geotechnical Work was observed at KP 514. Work was being conducted to stabilise a landslide that had impacted the eastern portion of the RoW. The works also included drainage and erosion control measures – see Photo 11 below. It was also reported and demonstrated with recent photographs that the extensive Category 3 works have been conducted at KP 382.5 on stabilising a landslide. Other Category 3 works are in the process of design and work will commence in later this year and in 2016.

Sakhalin Energy reported that during 2015, four Category 3 Geotechnical Works were performed (also in process) of which two are landslides and two are river crossings. Also during the same period, 22 Category 2 Geotechnical Works were conducted – down from 24 during 2014 and 53 during 2013.



Photo 11 - View to the east from the RoW at KP 514 showing a Category 3 geotechnical repair work on a landslide

3.5 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 a 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 block 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.

Unlike the visit of October 2014 in which local people were observed in several locations, the October 2015 site visit didn't have such encounters. However other (non-Company) access roads were noted – primarily via the forest tracks. Also, vehicle tracks were noted in several locations such as the RoW south of Dagi and south of the Evai River crossing.

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.

4. ONSHORE PROCESSING FACILITY

4.1 Introduction

As part of the monitoring visit, Ramboll Environ conducted a visit to the Onshore Processing Facility (OPF) located in the central, eastern side of Sakhalin Island. The visit was conducted on the 9th and 10th October 2015 by Andrew Snow of Ramboll Environ.

The focus of the visit was on the following aspects:

- Oil and chemical storage
- Waste management
- Worker accommodation for OPF Compression Project
- HSE initiatives
- Incidents and breaches
- Road safety

The visit included a walkover inspection of the Waste Transit Area, the principal chemical and oil storage areas, the Pipeline Maintenance Depot (PMD) and temporary accommodation facilities for OPF Compression Project construction workers. **Note:** The site walkover was limited by severe weather conditions, including high winds and heavy rain.

The visit also involved discussions with the Head of HSE (HoHSE) for the OPF, Konstantin Ozhog, as well as the Onshore Installation Manager (OIM), Head of Operations, Head of Maintenance, Construction Superintendent and Construction HSE Supervisor.

Ramboll Environ noted the high quality of the HSE Inductions provided for the main office and accommodation building ('Permanent Accommodation and Offices' (PAO)), the OPF Process Area and OPF Construction Areas, including good coverage of environmental issues.

4.2 Chemical & Oil Storage

4.2.1 OPF

From a general walkover of the OPF Process Area and more detailed walkover of the main chemical storage area and oil store for the OPF, Ramboll Environ observed high standards of management throughout, including storage containers, labelling and segregation systems, provision of materials safety data sheets (MSDS), good quality hardstanding and dedicated offload aprons, secondary containment systems (roofed or covered to prevent rainwater or snow ingress) and emergency response measures (including emergency containment measures, spill response equipment, first aid and emergency showers). No areas of obvious significant staining of hardstanding in the vicinity of these storage areas was observed.

Sakhalin Energy has installed several purpose-built storage containers in the main chemical storage area for the storage of drums and other containers of hazardous chemicals. These containers were temperature controlled, explosive-safe and fitted with fire detection systems linked to the main OPF Control Room.

Opportunity for Improvement: Ramboll Environ observed clutter around the emergency shower in chemical storage area, which was corrected immediately by the HoHSE. It is recommended that all emergency shower locations are checked on a regular basis to ensure they can be accessed immediately in the event of an emergency.



Photo 12 - Main chemical storage area at OPF



Photo 13 - Main store for drummed oil at OPF

4.2.2 PMD

In general, Ramboll Environ observed a very high standard of housekeeping, chemical and oil storage, as well as maintenance and availability of oil spill response (OSR) equipment in a dedicated warehouse.



Photo 14 - OSR equipment warehouse at OPF PMD

Examples of good practice observed in the PMD area included:

- Integrally banded above ground storage tanks and dispensing system for diesel re-fuelling, maintained in excellent condition and provided with a dedicated re-fuelling apron with contained drainage system.
- Drip trays deployed under mobile oil-filled equipment and parked vehicles.
- Clear labelling on drums and MSDS readily available.
- The entire yard area drained via an oil/water separation system.

Opportunity for Improvement: The integrally banded purpose-built lockers for oil and chemical storage located in the yard area were missing padlocks on their sliding doors. These locks should be replaced in order to prevent unauthorised access to these stores.



Photo 15 - Refuelling area at OPF PMD



Photo 16 - Oil and chemical storage lockers at OPF PMD (unlocked)

Opportunity for Improvement: Ramboll Environ identified some ten Intermediate Bulk Containers (IBCs) of aqueous film-forming foam (AFFF) concentrate (Alcoseal 3-3) currently being stored without secondary containment in the PMD warehouse (Photo 17). While the product's MSDS reports the product to be "detergent-free, readily biodegradable and virtually non-toxic" and is required to be stored at a controlled temperature, the PMD warehouse is not designed for bulk chemical storage. Therefore, it is recommended that this storage practice be reviewed and an alternative location and/or additional containment be considered. As a minimum, IBCs should be moved further away from the warehouse entrance.

We note that the floor was in good condition, sealed throughout with a chemical resistant coating and had no floor drains.



Photo 17 - AFFF concentrate storage in the warehouse at OPF PMD

4.3 Waste Transit Area

Across the site, and in general, waste is collected in local containers (typically wheeled or static plastic or metal bins) and then transferred to the main Waste Transit Area. With one exception noted in the OPF Process Area (Area 27 – where unsegregated waste was observed in one wheeled bin), Ramboll Environ observed good storage and segregation practices across the site, with containers in good condition, covered or lidded and clearly labelled in English and Russian.

The Waste Transit Area was inspected and was found to be generally well designed, organised, maintained and tidy, despite the adverse weather conditions at the time. Hazardous waste storage areas in particular were noted to be well managed. Ramboll Environ did note that the storage bay for non-hazardous waste was approximately 50% full, whilst the bay for wood waste was at least 100% full (Photo 18). Personnel reported that a collection by waste contractors was imminent.



Photo 18 - Non-hazardous waste storage bays at OPF Waste Transit Area



Photo 19 - Waste oil drum storage at OPF Waste Transit Area

Opportunity for Improvement: During discussions about waste, the issue of top soil and sub-soil storage relating to the OPF Compression Project was raised by Ramboll Environ. It was reported by Sakhalin Energy Construction staff that the material will be stored in the area north of OPF used for original OPF construction. However, no Soil Management Plan has been developed in order to properly assess and plan for exactly where, how, and for how long the material should be stored, and what measures are needed to minimise erosion. Such a plan is required.

Opportunity for Improvement: The capacity of current Waste Transit Area should be assessed ahead of commencement of OPF Compression Project construction. Site personnel interviewed (Operations and Construction) were not clear as to the strategy for accommodating waste from both a fully operational OPF and an active OPF Compression Project. Additional capacity is likely to be required either at the same location or a separate purpose-built location.

4.4 OPF Compression Project – Temporary Accommodation

At the time of the monitoring visit, Sakhalin Energy Construction was in the process of refurbishing a section of the existing worker accommodation facilities in the north of the site (established for the OPF construction) for use by construction workers associated with the OPF Compression Project. The initial phase of work involved replacing or upgrading utilities to the camp and refurbishing selected cabins in the south east corner of the camp area to act as a “fly camp” for workers involved in refurbishing the rest of the camp and other early works. Refurbishment of the welfare and accommodation cabins in the fly camp was ongoing at the time of Ramboll Environ’s visit, and no workers were yet staying in the camp.

Instead, the workers refurbishing the fly camp were accommodated in two dormitory blocks (D & E) on the western side of the site (south of the PAO and west of the PMD), known as the “TSS camp”. Facility personnel reported that the planned life of these blocks had been extended due to delays in establishing the fly camp. Whilst not assessed in detail against relevant international standards¹, Ramboll Environ notes that the accommodation standards were generally acceptable for the short term, although they clearly fell below the high standards observed in the PAO and partially-refurbished fly camp cabins. For example, a roof leak was observed in the entrance to one block and it was reported that roofing repairs have been made in other areas following leaks.

As part of the visit, Ramboll Environ conducted a brief walkover inspection of the fly camp, under preparation to house workers who will refurbish the main worker camp at the site ready for the commencement of the OPF Compression Project construction. Whilst the refurbished facilities inspected (two accommodation blocks and a welfare block) were not completely finished or occupied, they appeared to be of a good standard in terms of planned density per room, sanitary facilities, catering facilities, leisure facilities and welfare provision.

Ramboll Environ notes that the inspection of this area was made after 24 hours of heavy rainfall and so conditions were not necessarily representative of typical conditions.

¹ IFC / EBRD (2009) Workers' accommodation: processes and standards – A guidance note by IFC and EBRD.



Photo 20 - Example dormitory room in TSS camp



Photo 21 - Partially refurbished room in Fly Camp (for supervisors and above)

FINDING: Ramboll Environ observed that there was a clear need for urgent improvements to drainage and erosion control arrangements around the temporary construction camp. The fly camp area was water-logged and rivulets of silt-laden water were flowing across the camp area and into surrounding drainage ditches (Photo 22). These drainage ditches were not properly constructed, with no side-wall protection (vegetation, geotextile or ballast) and the check-dams in place were not frequent enough, nor properly formed (as seen elsewhere on the OPF site) (Photo 23). Furthermore, there was no settlement pond in place, nor any de-watering procedures or other silt reduction measures in place to reduce the silt load in the ditches. Ramboll Environ observed at least one location where silt-laden water was exiting the OPF site to the north and entering what appeared to be a natural stream. Such a discharge is not compliant with the HSESAP (Water Use Standard – Appendix 7 Onshore Facilities Aqueous Discharges²).

Urgent action is required to rectify this situation. It was reported that contractors were expected to be working in October to improve the drainage ditches and check-dams, but consideration also needs to be given to the surfacing of the camp area (i.e. expanding the area covered by hardcore), use of silt fencing, protection of drainage ditch side-walls, and installation of at least one settlement pond. The discharges from this area then needs to be monitored. It was clear to Ramboll Environ that a Drainage & Erosion Control Plan covering the entire camp area describing these arrangements was required. Sakhalin Energy Construction Team personnel indicated that the development of such plans was intended – but at a later date – to cover the whole Construction Project. However, we recommend that a Drainage & Erosion Control Plan and certain other plans (such as waste, wastewater, emergency response and security) be developed as soon as possible to cover early works, including establishment of the fly camp. The plans can be updated at a later date to cover a wider scope.

Opportunity for Improvement: It was observed that the accommodation cabins under refurbishment on the eastern side of the fly camp will be in close proximity (approximately 10m) to the haulage road that will be used to transport top soil and subsoil from the OPF Compression Project construction area to the designated soil storage site to the north of the OPF site. It is further understood that at the peak of site preparation works, there will be 24 hour truck movements along this road. It is therefore recommended that Sakhalin Energy Construction conducts a risk assessment, supported by noise monitoring, to determine whether or not workers accommodated in these cabins will be adversely impacted by traffic noise from this road. Depending on the results of the assessment, noise mitigation measures may be required (e.g. particular road surfacing, noise barrier, noise dampening measures on the cabins themselves).

² Doc. No. 0000-S-90-04-O-0255-00-E)



Photo 22 - Fly camp area under renovation - poor drainage and erosion control



Photo 23 - Silt-laden storm water discharging off-site without treatment

Opportunity for Improvement: Inspection of two redundant generator units in the northern boundary of the main camp, which were awaiting decommissioning and scrapping, identified oil or oily water sitting in the drip pans within the generators, the access panel to the generator open, the enclosure in which the generators sit in disrepair (i.e. not weather-proof), hydrocarbon staining on the ground below the fill point on one of the units and what appeared to be oil staining on the concrete to the rear of the units, adjacent to the back of the enclosure (Note: full access to this area was not possible and light levels were very poor).

Whilst no staining was evident on the ground immediately outside of the enclosure, it is recommended that action be taken as soon as possible to drain the residual oil/oily water in the generators and clean-up any surface oil sitting on the concrete floor. Given that there has been an environmental incident already recorded in relation to oil leakage from legacy plant and equipment at this camp (see OPFC Project Incident #1402381 discussed below), it is surprising that measures have not been taken to ensure that there is no potential for a repeat incident in relation to these generators.



Photo 24 - Oil staining from legacy diesel generators at camp

4.5 Other HSE Items

4.5.1 HSE Initiatives

From an interview with the HoHSE and brief discussions with the OIM, it was clear that a number of positive HSE initiatives had been implemented in the last two years or were planned for 2015/6. Examples included:

- During the 2015 Shut-down Campaign, when the number of personnel on site doubled due to the presence of contractors, site HSE personnel prepared a specific HSE Plan and rolled out a programme of awareness raising, specific HSE training and communication of the Company's HSE Philosophy, Life Saving Rules and other HSE requirements. Coupled with close supervision of contractor activities by Sakhalin Energy personnel, the Shut-down Campaign was completed with only one directly attributable incident, namely a Restricted Work Case (RWC) incident involving a minor finger injury to a contractor (i.e. no LTIs and no environmental spill or gas leakage incidents). Furthermore, Sakhalin Energy saw three times the number of Observation and Intervention and Hazard Identification Cards submitted compared to the number received in the same period of normal operations, indicating the high level of buy-in by contractors working on site. This initiative will reportedly be run again during the planned 2015 shut-down campaign.
- Also related to the 2015 Shut-down Campaign, due to a lack of available space on site, Sakhalin Energy leased accommodation space at a local beach-side holiday camp, approximately 9 km from the OPF, for use by contractor personnel. Prior to signing the contract, site HSE personnel supported by specialists from Sakhalin Energy Central HSE conducted several inspections of the facility and agreed and reportedly implemented in conjunction with the owner an action plan to improve conditions and management at the camp to a level acceptable to Sakhalin Energy (based on Shell's international standards for worker accommodation). A sample of records was provided as evidence of the inspections and improvement plan developed (although it was not possible to establish from these records whether all actions were completed and the facility was fully compliant with Shell or equivalent international standards).
- In 2015, the facility's HSE Incentive Scheme was augmented to include a specific award for environmental observations and suggestions for improvement in the form of limited edition books on the wildlife of Sakhalin Island.

4.5.2 Incidents and Breaches

No significant environmental incidents or breaches have reportedly occurred in relation to operations at the OPF in the last two years. According to the HoHSE, two recent incidents logged on the Fountain Database involved gas passing the seal on a valve. Immediate corrective action was undertaken in both cases and preventative action in the form of more frequent maintenance and seal replacement was reportedly implemented.

One notable environmental incident related to construction occurred in May 2015 and involved a leak of oily water from redundant diesel-fired generator units (DGs) in the main camp area (Ref. OPFC Project Incident #1402381). The generators had been out of operation since 2009 but not appropriately managed by the Company's contractor (subsequently replaced with another contractor). Approximately 5-10 litres of oily water reportedly overflowed from drip pans in the generators and onto the ground. Following the incident, the generators were fitted with secondary containment systems and protective skirts (Photo 25) and the oily material and impacted soil was excavated and removed as hazardous waste.

During an inspection of the impacted area, measures taken appeared adequate, however, a very minor residual oil sheen was observed by Ramboll Environ on the surface of storm water in the locality.



Photo 25 - Legacy DGs linked to OPFC Project Incident #1402381

4.5.3 Road Safety

Based on discussions with the HoHSE and general observations during the inspection, Ramboll Environ formed a very positive impression regarding the significant efforts made by the asset in relation to road safety. According to the HoHSE, there have been no road safety incidents involving injury for several years, with the last near miss being in 2013 involving an ambulance exceeding the speed limits during a medical evacuation. Examples of good practice include:

- Emphasis on road safety in the Project's "Life Saving Rules" and clear communication of these rules to all visitors, staff and contractors.
- Strict adherence to on-site and off-site speed limits by Sakhalin Energy and contractor drivers.
- Good condition of vehicles.
- Formation of a Road Safety Team, reporting directly to the HoHSE, that actively monitors compliance with the Project's road safety procedures.
- Winterisation Programme involving snow clearance, gritting, daily inspections and specific safety induction.
- Travel planning taking account of weather conditions and close monitoring of road conditions.

5. SOCIAL PERFORMANCE MONITORING

5.1 Introduction

Ramboll Environ monitors Sakhalin Energy's social performance on an annual basis to verify fulfilment of the HSESAP commitments. A dedicated review of social performance programmes was not included in the 2015 site monitoring visit, although office discussions were nonetheless held with Sakhalin Energy's Government and Shareholders, External Affairs Division..

The following aspects were covered during the October 2015 monitoring visit:

- Social Performance progress overview
- Community Liaison structure and Information Centres
- Community Grievance Procedure
- Stakeholder Engagement, including engagement with Japanese stakeholders and the Stroitel Dacha Cooperative
- Indigenous Peoples and implementation of the SIMDP
- Social investment (SI) programme.

Detailed descriptions of the social performance mechanisms and procedures established by Sakhalin Energy to date have been provided in previous IEC site visit reports over the 2009-2014 period. All of these reports are publicly available on Sakhalin Energy's website³. Updates on each of the aforementioned aspects are provided in the following subsections.

Overall, we conclude that the Company continues to successfully operate a number of community focussed programmes, activities and engagements, demonstrating its ongoing commitment and a high level of social performance.

5.2 Social Performance Overview

Sakhalin Energy's Government and Shareholders, External Affairs Division made a number of presentations during the visit, highlighting key initiatives and programmes undertaken during the reporting period. These are highlighted in the following subsections.

Additionally noteworthy highlights include:

- Training to inform contractors and subcontractors about Sakhalin Energy's social requirements:
 - Statistics: 25 training sessions were held, reaching 328 participants
- United Nations Global Compact International Yearbook:
 - Sakhalin Salmon eco-educational project – in 2014 edition
 - Sakhalin Energy's human rights approach – in 2015 edition
- All-Russian contest Leaders of Corporate Philanthropy (2014):
 - Sakhalin Energy was awarded 3rd place in the All-Russian Ranking.
 - SIMDP was awarded 2nd place under the nomination "*Best Project Supporting Development of Infrastructure for NGO Activity, Charity and Volunteerism*".

³ <http://www.sakhalinenergy.ru/en/library/folder.wbp?id=09946bc1-9839-4dd2-aa3d-1e89b64d377f> [In English]
<http://www.sakhalinenergy.ru/ru/library/folder.wbp?id=827a621e-77cf-43b3-87e6-73c601c1df54> [In Russian]

5.3 Community Liaison

5.3.1 Structure

Sakhalin Energy established a Community Liaison Organisation (CLO) in 2003 to provide an interface between the Company and local communities. Through its Information Centres, based in local villages' and districts' libraries across Sakhalin Island, the Company maintains a live communication link with the external public.

In 2014, the CLO was reconfigured into a *Community Liaison Structure* with key roles undertaken by specialists in the following teams: the Social Performance Subdivision and the Communications, Stakeholder Engagement and Event Management Subdivision.

The Community Liaison Structure also includes:

- Sakhalin Indigenous Minorities engagement specialist
- Community Liaison Officer
- 23 Information Centres based in the local village and district libraries.

5.3.2 Information Centres

The Community Liaison Structure continues to operate all 23 Information Centres. The Company has recorded 2,312 visitors to its Information Centres during the period Jan–Sept 2015, and over 20,000 visitors from 2008 to date.

Information Centres provide a range of information resources, with feedback showing that the "Vesti" corporate newspaper, information regarding the Company's social programmes, the Sakhalin-2 project in general and Company-issued Sakhalin nature books are of most interest to visitors. Sakhalin Energy has developed a list of resources that Information Centres should disclose and display, which reportedly now includes copies of the "Vesti" newspaper. Due to its popularity, the Company has agreed to provide additional copies upon request. It was previously recommended by Ramboll Environ that only up-to-date versions of the information resources are displayed on the holders and old material archived to make it easier for visitors to navigate. Sakhalin Energy reports that this has been brought to the attention of the Information Centre consultants to action as soon as possible (depending on each Information Centre's capacity and visitors' interest).

Information Centres are staffed by trained consultants. Sakhalin Energy continues to conduct face-to-face meetings and provides both Project-related (e.g. information on the Company's grievance procedure, social programmes and environmental monitoring) and skills (e.g. computer) training to Information Centre consultants. In 2014 this has also included specific training in relation to the OPFC Project.

In December 2014, in response to Ramboll Environ's suggestion, the Company redrafted its Information Centre monthly reporting form, which was introduced to consultants and tested on a two-three month trial basis. Feedback was that the new form was convenient and understandable to complete, and statistics are (from January 2015) collected via the new form.

Since 2010, Sakhalin Energy implemented a Donated Book Project, which in 2015 (as the Year of Literature) followed the theme of Russian literature and Nobel laureates in literature. A number of books were donated to 23 Information Centres and Yuzhno-Sakhalinsk and Aniva libraries.

5.4 Community Grievance Procedure

Sakhalin Energy continues to operate its well-established 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 (see previous IEC monitoring visit reports for further details).

Note: the "Grievance Procedure HR (Human Resources)", applicable only to Company staff and their potential HR-related grievances, was not discussed during this monitoring visit.

The Company has received a number of acknowledgements for 'best practice' and has recently participated in the UN Forums on Business and Human Rights (Geneva), sharing its experience in human rights standards implementation, including its corporate grievance mechanism (2012-2014).

In 2014, a campaign was held to disseminate information on the Community Grievance Procedure, which included presentations during regular public meetings, publications in district newspapers and training for librarians running the Company's Information Centres. For contractor/subcontractor staff, inductions, training and refresher training were provided on HSESAP Social commitments and the grievance resolution process. Leaflets, posters and pocket calendars providing details of the Grievance Procedure (with contact information) were placed in all localities and districts affected by the Project, including offices and camps.

Sakhalin Energy provided a breakdown of grievances lodged during 2014 and 2015 YTD (January – September), as shown below:

| Category | Number of lodged grievances | |
|----------------------------|-----------------------------|-----------------|
| | 2014 | 2015 (Jan-Sept) |
| Community Impact | 6 | 6 |
| Information Disclosure | | 5 |
| SIMDP | | 13 |
| Recruitment and employment | 5 | |
| Labour Issues | | 1 |
| Labour Safety | | 2 |
| Code of Conduct | | 2 |
| Contractual Issues | | 2 |
| Other * | 5 | |
| Total | 16 | 31 |

* Other – SIMDP, code of conduct, health conditions in Zima School

The Company reports that 16 grievances were lodged in 2014, all of which were rated blue as per the HSESAP Risk Assessment Matrix (RAM). The Company finalised 13 of these during 2014, with the remaining 3 finalised in early 2015. In total 15 grievances were finalised in 2014 (two raised in 2013 and 13 raised in 2014). Of these, eight were closed with a signed statement of satisfaction and seven by Business Integrity Committee (BIC) decision. Of the seven closed by BIC six grievances were where the complainant did not provide feedback on the Company's response, and one grievance was where the complainant did not agree with the Company's response (this complaint was reviewed in more detail as described below). All finalised grievances were concluded within the period stipulated by Community Grievance Procedure (45 working days).

A total of 31 grievances have so far been lodged in 2015. The Company has already finalised 24 of these (19 by signed statements of satisfaction and five by BIC decision). All finalised grievances were concluded within 45 working days.

The records for two sample grievances were reviewed by Ramboll Environ during the site visit:

- One complaint finalised in 2014 was closed by the BIC where the complainant did not agree with the Company's response. The complaint related to disturbance to a residence by work being undertaken by an employee of a company that undertakes contract work for Sakhalin Energy. Investigation into the complaint revealed that the work being undertaken was in fact personal work by the employee and was not work for either Sakhalin Energy or the contractor company. Sakhalin Energy's CLO initially met with the complainant as part of the investigation. A letter was then sent to the complainant explaining that the works were unrelated to Sakhalin Energy and therefore were not the responsibility of the Company. The letter was followed-up with a telephone call during which the complainant said that they did not agree with the Company's response. Based on the evidence provided, Ramboll Environ agrees with the BIC decision to close the grievance.
- A complaint was received in 2014 relating to labour safety that was raised by an employee of a Sakhalin Energy contractor against a fellow employee. The complaint related to unsafe practices by the fellow employee. On investigation with the contractor company, it was revealed that the incident actually took place in 2008 and that it had been dealt with by the contractor company at that time. It appears that the complainant had submitted the complaint following a personal dispute with his fellow worker. On production of evidence, the complainant agreed to close the grievance.

5.5 Stakeholder Engagement

Annual public meetings continue to be organised by Sakhalin Energy and are held in a number of communities near the Project's main operating assets. In 2015, meetings were held in 11 communities, attracting a total of 68 participants. Meetings are announced through newspapers, website and posters.

The Community Awareness Programme (CAP) is also ongoing, and is primarily intended to promote public awareness of safety requirements in relation to the pipeline RoW and safety zones, thus preventing emergencies, casualties and environmental damage. The Company aims to ensure that communities and stakeholders are aware of the Company's activities via:

- Announcements in major Sakhalin newspapers (quarterly)
- Information provided during the public meetings
- Information supplied on its public website.

One of Sakhalin Energy's ongoing annual initiatives is the publication of the Sakhalin Energy Sustainable Development (SD) Report – a non-financial report according to the Global Reporting Initiative (GRI) Reporting Framework. Production of the report involves professional consultants, a Working Group, questionnaires and dialogues with stakeholders before being presented to the public and distributed. Feedback has continued to be positive and the Company makes continuous improvement.

5.5.1 Engagement with Japanese Stakeholders

The Company, via its Corporate and External Affairs Department, continues to actively engage with Project stakeholders in Japan. The following events have taken place in the reporting period:

- 22nd September – meeting with Japan Coast Guard branch in Mombetsu 16th February – 30th Mombetsu Oil in Ice Symposium
- 17th February – meeting with Hokkaido Government and Hokkaido Fisheries Environmental Centre
- 26th May - meeting with Japan Coast Guard branch in Tokyo
- 30th September – meeting with Japan Coast Guard in Rumoi.

5.5.2 Engagement with Stroitel Co-operative

Sakhalin Energy has continued its engagement with the *Stroitel* Dacha co-operative located in the vicinity of the Prigorodnoye Production Complex. Notification of planned maintenance works with gas flaring at the Prigorodnoye Production Complex is provided via the Korsakov newspaper "Voskhod" and telephone engagement with the cooperative is undertaken on an ad hoc basis.

Air quality and noise monitoring was undertaken during the dacha season (May-October) of both 2014 and 2015, with results being reported to the chairman of the dacha community. The Company advises that as a rule, dacha owners are invited to participate in these monitoring sessions but chose not to be present during either year. No registered exceedance of the maximum permissible concentration of pollutants were reported during 2014 or 2015 (see also the Prigorodnoye Production Complex audit report in Appendix 3).

Sakhalin Energy reports that it issued special invitations to the Co-operative to participate in the Company's dialogue with external stakeholders regarding the preparation of the Sustainable Development Report, held in February and November 2014 and January 2015. Dacha owners however did not participate in these dialogues.

Also see section 6.1.2 regarding engagement with the *Stroitel* dacha community in relation to LNG Train 3.

5.6 Indigenous Peoples

During the monitoring visit, Sakhalin Energy reported on a number of notable events, recognitions and awards relating to its work with Indigenous Peoples (IP), including for 2015:

- Winner of "*The best exposition: relevance and professionalism*" at the 10th IP International Exhibition and Fair "Treasures of the North 2015" (Moscow, April 2015), along with other presentations and readings at this event.
- Letter of Gratitude from the Russian Association of Indigenous Peoples of the North, Siberia and the Russian Far East (RAIPON).
- Participation in a series of events dedicated to the 80th Anniversary of Vladimir Sangi, Nivkh writer and founder of Nivkh alphabet.
- Preparation of key publications including the *Universal Declaration of Human Rights* and the *UN Declaration on the Rights of Indigenous Peoples* in Russian, English and languages of IP of Sakhalin Oblast, and the "*Preservation of Indigenous Languages and Culture*" brochure.

Details of previous years' awards and events are presented in the relevant IEC monitoring visit reports.

Of additional note, the Company held a number of IP public meetings early in 2015 regarding the 4D seismic survey that was undertaken in July 2015. Meetings were held in Nogliki, Val and Nekrasovka in January 2015 and no major issues were raised.

5.6.1 SIMDP 2

Sakhalin Energy continues to implement the Sakhalin Indigenous Minorities Development Plan (SIMDP 2), which has been extensively covered in previous IEC monitoring visit reports.

During the 2015 monitoring visit, Sakhalin Energy provided a number of project examples undertaken as part of the SIMDP 2, including:

- First International Symposium on the Languages of the Indigenous Peoples of the Far East (Yuzhno-Sakhalinsk)
- IP Scholarships Award Ceremony (Yuzhno-Sakhalinsk)
- "Plants used by the Indigenous Peoples of Sakhalin and the Amur Region" (publication of book).

Regular sessions of the SIMDP regulatory bodies continue to be held. In addition to individual consultations, IP public meetings on SIMDP 2 also continue, reportedly reaching 12 IP communities in 2014 and 13 IP communities in 2015. Sakhalin Energy advised that the Company financed 43 IP projects in 2014, and 62 projects in 2015 (January-October).

The most recent round of external monitoring of the SIMDP 2 was undertaken in May-June 2015 (final evaluation) by an independent expert, who visited 13 IP communities and met with a number of individuals and stakeholders. The 2015 public opinion survey, reaching 232 respondents in eight IP communities, revealed that 81% of respondents showed awareness of the plan (compared with 70% in 2013 and 71% in 2010).

5.6.2 SIMDP 3

Development of the SIMDP 3 (2016-2020) is underway, with work to date including:

- SIMDP 3 Working Group
- First round of consultations (13 IP communities, 16 public meetings and meetings with municipal administrations, 295 participants)
- Public opinion survey (231 profiles)
- Meetings with stakeholders, individual consultations
- Second round of consultations (October).

5.7 Social Investment

Sakhalin Energy has been implementing its Social Investment (SI) Programme in line with the Company's Sustainable Development Policy for a number of years, and Ramboll Environ considers that the SI Programme has evolved into a constructive model of community investment with a strong partnership foundation and a robust sustainability agenda.

From the number of successful initiatives that have been devised under the SI framework, one of the major highlights has been the "*What to do in Emergency Situations*" programme, a Partnership with Sakhalin EMERCOM and Ministry of Education, using cartoons, classes, contests and other events to educate children in safety aspects (including natural and man-made disasters, personal safety and also internet safety). Other previously reported SI initiatives include the Korsakov Partnership Council, Road Safety Council, Sakhalin Salmon, "*Fund of Social Initiatives 'Energy'*", "*Veterans Project*" and the "*Five Centuries of Russian Art*" exhibition.

During the 2015 monitoring visit, Sakhalin Energy reported that the "*What to do in Emergency Situations*" programme has been recognised as the winner of KonTEKst PR projects competition, which is held under the aegis of the Russian Ministry of Energy. It has also been included in the "*Best Social Projects in Russia – 2014*" Book along with "*Five Centuries of Russian Art*".

6. PROJECT UPDATES

6.1 New Projects and Project Expansions

6.1.1 OPF Compression (OPFC) Project

The OPFC Project is nearing the end of the Front-End Engineering and Design (FEED) stage (99% complete) and the contract for early works is currently out to tender (contract award target end of 2015). Initial refurbishment works for the temporary fly camp at the OPF have commenced and are further discussed in section 4.4.

Follow-up Item: We also note that some of the fly camp facilities (and other proposed temporary camp area) appear to be close to the existing sanitary protection zone (SPZ) and Sakhalin Energy should confirm that only permitted camp facilities are located within the SPZ.

Follow-up Item: The updated Environmental, Social and Health Impact Assessment (ESHIA) for the OPFC Project had not been updated at the time of the site visit and Ramboll Environ notes that this will need to be provided and agreed by lenders prior to commencement of early works (the updated ESHIA was provided for review shortly after the monitoring visit). In addition, we note that the following will also be required and agreed with lenders:

- Environmental and social management plans:
 - Dedicated plans for construction (must be ready prior to start of works, including early works)
 - Waste management plan (including minimisation at source) is a critical aspect and is needed urgently (see also section 6.2)
- Update of HSESAP for operation
- Simultaneous operations (SIMOPS) procedures (required prior to the start of main construction activities).

6.1.2 LNG Train 3

An overview update on progress towards the potential LNG Train 3 Project was provided during the site visit. The current target timeline for the Train 3 development is as follows:

- Target FEED by 2017
- Target start-up 2021

The potential sources of gas for Train 3 are Sakhalin-3 and/or Sakhalin-1. The current concept design is that gas from either of these sources would enter the Sakhalin Energy system at/near the Sakhalin Energy OPF for transport south to the LNG site via the existing Sakhalin Energy gas pipeline. Infrastructure to treat and transport the gas from source to the Sakhalin Energy system would not be part of the Train 3 Project. The outline design envisages the following new components for the Train 3 Project:

- Two new booster stations on the pipeline transportation system (PTS)
- Expansion of the existing Booster Station 2 (BS-2)
- New LNG train and LNG storage facilities
- New LNG export jetty
- Addition power generation at the LNG facility (information provided indicated that either three or five new gas turbine generators are envisaged)

There is also the potential for condensate from Sakhalin-3 to be transported from the Sakhalin Energy OPF to the OET via the PTS. This option would enable batch export of condensate (as

opposed to mixed oil/condensate export as currently occurs); this would require the construction of additional condensate storage facilities at the OPF and OET.

Follow-up Items: The need to develop and assess the Train 3 Project in line with applicable international lender standards is understood by Sakhalin Energy. We note that this would be required for both the Phase 2 lender group (as a project expansion) and for potential future lenders, should project financing be sought for the Train 3 Project. Two items that we would stress at this stage in relation to the Train 3 project, however, are:

1. While the upstream facilities to provide gas to the Sakhalin Energy system would not be part of the Train 3 project itself, it is very likely that under the IFC Performance Standards (and other international lender standards) these facilities would need to be considered as associated facilities. Depending on the nature of the upstream facilities, this could include upstream field developments, treatment facilities and pipeline systems. We recommend that the issue of potential associated facilities be considered at an early stage of the project development.
2. The addition of a third train at the LNG facility will lead to increased air and noise emissions, which in turn have the potential to result in an increase in the SPZ around the Prigorodnoye Production Complex. We recommend that Sakhalin Energy undertakes early air quality and noise modelling to provide an early indication as to whether any increase in the SPZ may affect the local dacha community and specifically whether this may lead to any resettlement being required. Timely communication with the dacha communities is also recommended in relation to Train 3.

6.1.3 Molikpaq Platform Life Extension (MPQ PLEX)

MPQ PLEX comprises a range of investments required to ensure that the Molikpaq operating lifetime is assured until 2041. Key elements of MPQ PLEX are refurbishment of the derrick and upgrades to the accommodation facilities. The nature of these activities is unlikely to be the source of significant environmental impact, although they will nonetheless need to be considered in terms of any potential impacts on the Western Gray Whale (WGW) through the Western Gray Whale Advisory Panel (WGWAP) process.

6.1.4 Gas Pipeline Blowdown Project

Sakhalin Energy is required under RF standards to install facilities on to the 48" gas pipeline that allow sections of the pipeline to be purged of gas safely in the event of emergency or intrusive repair. The approach to be adopted by Sakhalin Energy is the 'gas pipeline blowdown project' whereby relief vents will be installed at the above ground gas valve stations such that the pipeline in sections between each valve station can be depressurised by venting to atmosphere. Sakhalin energy has confirmed that the recovery of vented gas is not technically feasible.

Sakhalin Energy plans to estimate the quantity of released gas arising from such venting situations and include it in its regular greenhouse gas reporting statistics.

It was reported that air and noise dispersion studies are to be carried out in order to determine effects on nearby residences to the valve stations.

Follow-up Item: Ramboll Environ requests that these studies are provided for review when available. In addition, we note that this venting would also have the potential to impact on ecology, especially in relation to noise disturbance that could be particularly significant to nesting birds. While noting that such venting would only be performed in emergency or major pipeline repair scenarios, we nonetheless recommend that the modelling be reviewed when available to confirm whether noise impacts could affect sensitive and/or protected nesting bird species such as Steller's Sea Eagles and, if so, what mitigation measures could be developed.

6.2 Waste Management

Sakhalin Energy has historically used three landfill facilities in the northern (Nogliki), central (Smirnykh) and southern (Korsakov) portions of the island for the disposal of its non-hazardous wastes. Each of these facilities was originally developed/upgraded with support from the Company to ensure that they were designed to appropriate standards. Ramboll Environ has previously reported to lenders on significant issues in relation Sakhalin Energy's management strategy for non-hazardous waste that have resulted from (i) capacity issues at the Korsakov landfill, and (ii) legal restrictions that have stopped disposal of Company waste to the Smirnykh and Nogliki landfills. In response to these issues, Sakhalin Energy has developed a revised waste management strategy. This strategy has been subject to a number of delays and has evolved/changed over the previous two years. It is therefore positive to note that the Company has now confirmed its medium term strategy and that it has selected two waste contractors that will transport waste to waste management facilities on mainland Russia.

Follow-up Item: We agree that the transport of waste to facilities on the mainland is a reasonable medium term solution to the current waste management situation. However, we request that details be provided of the proposed mainland landfill facilities to be used under these contracts. We understand that Sakhalin Energy has audited these facilities and therefore we request that the findings of these audits be provided to Ramboll Environ for review.

While acknowledging that transport of waste to the mainland is a reasonable immediate solution to the current waste management issues facing the Company, we note that it is likely to represent only a medium term solution because:

1. This is a relatively high OPEX option
2. It likely that construction-related wastes (including those associated with the OPFC project and the Train 3 project) may not be accepted at the landfills on the mainland.

In response to this, Sakhalin Energy's proposed longer term strategy is to develop its own waste facilities at the OPF and Prigorodnoye Production Complex. The Company's original plan was that these waste facilities would be developed as part of the planning approval process for the OPFC and LNG Train 3 projects respectively. Ramboll Environ has previously agreed that this is a reasonable long-term strategy. However, we have also previously reported to Sakhalin Energy and lenders that the timeline for developing a waste facility as part of the OPFC project was getting critical if it was to be developed both as part of the OPFC project approval process and in time to receive construction waste from the OPFC project. During the site visit it was acknowledged by Sakhalin Energy that delays in the development of this waste option mean that it will now not be able to develop a waste management facility at the OPF as part of the OPFC project.

FINDING: The development of a waste management strategy in the north of the island is now a critical and urgent issue to be addressed by the Company in order to ensure that OPFC project construction wastes are to be appropriately managed. In the longer term, the development of a waste management facility by Sakhalin Energy may also be less well supported by the local authorities than if it had been developed as part of the wider the OPFC project.

FINDING: We further note that the suggested location for the waste management facility at the OPF is in an area that has been identified in the OPFC project draft ESHIA as the site of a red data book (RDB) lichen species, and also one of the areas identified as a possible relocation/offset site for lichen habitat loss anticipated for the OPFC project. This both emphasizes the need for greater communication between different development projects' teams within the

Company and also the need for further options appraisal for the development of the waste management facility.

Follow-up Item: While generally supporting Sakhalin Energy's strategy of developing its own waste management facilities, we note that these facilities should be designed to meet lender standards and that key elements of this are:

- Risk assessment should be applied to the design and location of the facilities
- The designs will need to meet IFC PS and IFC EHS Guidelines for Waste Facilities.

Follow-up Item: We also note that Sakhalin Energy needs to avoid delays in the development of plans for a waste management facility at the Prigorodnoye Production Complex in order to ensure that its timeline for development keeps pace with that of the Train 3 Project in order to avoid the issues encountered at the OPF.

6.3 Environmental Performance

6.3.1 Flaring

Sakhalin Energy is committed to no continuous flaring or venting (HSESAP Air Emissions Standards Comparison, 0000-S-90-04-O-0257-00-E). As previously reported, Russian Federal Government Decree #7 came into force in 2012 and set a 95% utilisation limit for associated gas. In its original interpretation of this decree, the Company had assumed that this 95% utilisation applied to all gas production. However, we now understand that Sakhalin Energy has agreed with the authorities that it only applies to associated gas defined as the gas produced at PA-A and PA-B (and therefore not gas produced at LUN-A).

At the time of the site visit, year-to-date (the end September 2015) cumulative flaring across all assets was less than 3 bscf, which is similar to performance in 2014 (despite a planned maintenance shutdown of Train 2 in July 2015 that necessitated flaring) and less than the equivalent period in each of the three years prior to 2014. This demonstrates the achievements made by the Company in flaring minimisation, and the Company is currently on course to meet the 5% flaring target in 2015.

6.3.2 Sewage treatment - Offshore

As previously reported, discharge levels of certain parameters, and most specifically ammonia and phenols, from the sewage treatment plant (STP) on the LUN-A and PA-B platforms do not meet Russian permit limits and therefore the Company has to make fee payments to the RF authorities. Sakhalin Energy has assessed replacement of the STP at the LUN-A and PA-B platforms and determined that the cost of replacement is uneconomic. On the basis of this cost-benefit analysis the Company requested a derogation from lenders to allow continued operation of the current STP (with associated payment of fees) and this was agreed by Lenders earlier in 2015. At that time, Sakhalin Energy also noted that it was in negotiation with the RF authorities to agree to increased discharge limits in its licences, but no further update on this issue was available at the time of the site visit.

6.3.3 Sewage treatment – Onshore

FINDING: Sakhalin Energy has reported compliance issues with discharges from a number of its onshore STP, including at its staff accommodation facilities in Yuzhno-Sakhalinsk (Zima) and Korsakov (KPA), at BS-2 and PMDs. The Company has developed action plans to resolve these issues, which include:

- Zima: change of discharge from a fisheries class stream to a lower class stream (and hence with less stringent discharge criteria)

- KPA: Develop a new water application package with the aim to agree less stringent discharge limits with the authorities
- BS-2 and PMDs: Develop STP improvement programmes to return plant to compliance.

The authorities have reportedly advised since the site visit that the newly identified stream for Zima STP discharge – the Pravy Stream – is also of fisheries class. Sakhalin Energy is therefore continuing to discharge to the original stream until its discussions with the authorities regarding the Pravy Stream's classification are resolved. If the classification is amended, the Company aims to change the discharge point and obtain new permits by the end of 2016.

Ramboll Environ will continue to monitor progress on the implementation of these plans.

6.3.4 Discharge of treated water to land

A general permitting issue relating to discharge of treated water to land/soakaways has previously been reported (see item WATER.08 in the Findings Log). A number of water discharges (e.g. treated surface water runoff) to ground were originally permitted by the applicable Russian authority, RosTekhNadzor (RTN). As previously reported, responsibility for environmental permitting has reportedly now moved from RTN to RosPrirodNadzor (RPN). However, RPN does not 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 expired and RPN has no legal basis to re-approve for such permits. As such, Sakhalin Energy does not have valid permits for its ongoing discharge of treated water to ground at its onshore facilities.

However, it was reported during the site visit that new environmental legislation is coming into force from January 2016. Sakhalin Energy's interpretation of the new law is that there is no express prohibition for discharge to land. The Company's approach is therefore to apply for new discharge permits for the continued discharge of treated water to land under the new legislation and to see if this is agreed by the regulator. The Company is also considering alternative wastewater disposal options such as discharge to waterbodies in case permits are not granted.

6.3.5 Cuttings Re-injection

Sakhalin Energy has been re-injecting (disposing of) drilling and other production waste since 2004 into dedicated cuttings re-injection (CRI) wells at each of its offshore platforms. This practice previously did not attract the payment of fees to the RF authorities. However, we were informed during the site visit that amendments to RF waste management laws have now resulted in the following:

- Waste generation norms and waste disposal limits reports shall specify the waste volumes to be re-injected;
- Passports are required for drilling waste and other injected waste;
- Disposal limits for drilling and other waste shall be obtained;
- CRI wells shall be registered as waste disposal facilities.

According to the RF legislation, any waste disposal is treated as producing a harmful effect on the environment and shall be paid for. However, until now the Company has not made any payments for the re-injection of drilling and other waste citing the following rationale:

- Waste re-injection is a type of environmental protection, and the Company has been allocating substantial funds to this activity;
- Re-injection of drilling and other waste into deep formations excludes any negative environmental impact;

- No payments for waste re-injection (disposal) viewed as a source of negative environmental impact, is provided for by the Sakhalin-2 Production Sharing Agreement (PSA).

However, the local authorities (RPN) are claiming for payment of fees that, as of 1st July 2015, amount to 106.0 million RUR for the period Q4 2012 to Q2 2015 inclusive. Future fee payments are estimated at around 15 million RUR annually. The Company contends the need to make such payments and has proposed the following way forward:

- Make back payments as required by local RPN.
- Send a letter to the RF Ministry of Natural Resources on introducing possible changes to the law.
- Ensure inclusion of re-injection (disposal) of drilling and other waste via CRI wells into the register of the best available technologies under RF law, thus exempting it from fees. (Ramboll Environ agrees that re-injection of waste should be considered as good practice.)

Follow-up Item: Sakhalin Energy should keep lenders updated on progress towards resolution of the issue of payment of fees for cuttings re-injection.

6.3.6 Well Control

Follow-up Item: Sakhalin Energy provided a presentation on updates to its well control contingency plan (WCCP) that covers well control events and their direct consequences on the LUN-A, PA-A and PA-B platforms. As part of the review the quantitative risk assessment (QRA) is being updated. We recommend that:

1. The lenders' technical and/or reserves consultant reviews the QRA
2. Sakhalin Energy use the results of the QRA exercise to update the spill risk profiles in its oil spill response plans (OSRP) as appropriate.

6.4 Monitoring Strategies

Sakhalin Energy has a range of biodiversity/ecological monitoring programmes in place. The programmes are defined for fixed periods, and then the results reviewed in order to determine the scope of the monitoring to be undertaken during the next phase of the programme. These programmes are defined within so-called Monitoring Strategy reports, each of which covers a different aspect as follows:

- Terrestrial programmes
 - Soils
 - Flora and vegetation
 - Wetlands
 - Groundwater
 - River hydrology
 - River benthos
 - Taimen
 - Steller's Sea Eagle / White Tailed Sea Eagle
 - Birds (other RDB species)
 - Mammals
- Offshore programmes
 - Offshore (sediments, benthos, plankton and water quality)
 - Ballast water
 - Gray whales (reviewed annually by the WGWAP)

Since late 2014, Ramboll Environ has been iteratively reviewing the latest updates to the suite of Monitoring Strategy Reports, and all of these have now been updated and agreed. The only exception to this is the offshore monitoring programme, which is still under review and discussion between the Company and Ramboll Environ. These ongoing discussions primarily relate to monitoring requirements around the LUN-A platform following a historical mud-loss incident in March 2013. In the incident, surge pressures were generated while introducing mud (which contained oil) to well LA-510, which resulted in the loss of approximately 250 m³ of mud to the subsurface formations surrounding the well. Some of this mud migrated to the shallow seabed sediments and water column, and oil sheens were observed on the sea surface. Based on the size of the observed oil sheen, it was estimated that around 15 litres of oil was released. Immediate corrective actions were taken to stop any further loss, the incident was reported to the relevant authority (EMERCOM) and sea surface observations were implemented around LUN-A on a daily basis. The incident was also noted in the half-yearly report to Lenders.

As a result of the incident, the installation of a mud loss system was made mandatory and actions taken to develop and implement a Drilling Operations Manual. The Manual formalises accepted practices and reduces the reliance on "Corporate Memory". It is anticipated that the Manual will be implemented by December 2015.

Seabed sediment contamination and benthic biota were monitored during 2013 and 2014. Sakhalin Energy reported that monitoring in 2013 indicated elevated concentrations of hydrocarbons (oil) in sediment near LUN-A, but that concentrations had fallen significantly by the time of the 2014 survey. The Company proposes to repeat monitoring in 2015 to verify recovery. Ramboll Environ has reviewed the results of the 2013/2014 monitoring results and it seems likely that impacts to marine benthic communities were restricted to an area of around 5 hectares. It was recommended that additional monitoring is conducted over the coming years to check that the affected area recovers over time, and to inform an assessment as to whether any ecological mitigation or compensation is required. It was also recommended that data from long term monitoring is 'contextualised' with additional survey data taken from other platforms and control sites to assess whether any apparent effects are specific to the vicinity of the Platform and caused as a result of Project activities. Ramboll Environ will update lenders on the final agreement of the offshore monitoring programme in due course.

6.5 Western Gray Whales

6.5.1 Introduction

During the site visit Sakhalin Energy provided an overview of:

- The 2013-2015 Joint Programme for western gray whale (WGW) that it operates with Exxon Neftegas Limited (ENL)
- The Marine Mammal Observation (MMO) programme
- The 4D seismic survey undertaken in spring 2015

A brief summary of the information provided is presented below, although more detailed analysis and commentary from Ramboll Environ on WGW aspects has been provided separately to lenders following the WGWAP Working Meeting (April 2015) and planning of the 4D seismic survey. Ramboll Environ will also report to lenders separately on the WGWAP-16 meeting held after the site visit in November 2016 (we will provide a detailed report only after the formal Panel report from WGWAP-16 is made available, which is anticipated in January 2016).

We also provide below commentary on the evolution of the WGWAP both within its current Terms of Reference (ToR – which runs to the end of 2016), and for its future (2017-2022) phase.

Joint Programme

The stated objectives of the Sakhalin Energy-ENL Joint Programme for the period 2013 to 2015 are as follows:

"Increase understanding of Gray whale ecology and population, and factors that contribute to gray whale population and habitat.", and

"Assess [the] condition of gray whale population (size, growth, etc.) and habitat."

The programme comprises the following components:

- Gray whale distribution and abundance
- Photo-identification of gray whales
- Acoustic (underwater) monitoring
- Benthic studies (gray whale prey species)

The Company presented a summary of the results of its 2014 work programme (at the time of the site visit results from the 2015 programme were not ready). In terms of gray whale identification work, 137 gray whales were identified near Sakhalin island in 2014, including 12 calves and 3 adults (1 off Kamchatka) that had not been identified in previous years by the Joint Programme research team. At the end of the 2014 field season, the Joint Programme gray whale catalogue contained 243 fully identified individuals (this is the total number of individual whales identified since the start of the Joint Programme and will include whales that are no longer alive and hence is not a direct indication of the population size). Check-checking of the Sakhalin catalogue with catalogues for gray whales off North America was also undertaken under the Joint Programme and this identified 25 common whales.

Sakhalin energy also reported that gray whales *"were successfully restoring their body condition up to the end of the feeding season"*, although specific evidence was presented during the site visit.

The results and data of the 2014 field season work is reviewed through the WGWAP process, and Ramboll Environ will provide review commentary separately following the completion and reporting the Panel's review.

6.5.2 MMO programme

MMOs are on board all vessels involved in work on behalf of Sakhalin Energy where risks of collision with marine mammals is assessed as high. Collision risks are also managed through the use of designated vessel transit routes (corridors) with associated speed limits. With the agreement of the WGWAP, Sakhalin Energy implemented a modification to one of its transit corridors (between the LUN-A platform and the south of the island) on a trial basis. MMO observations made from vessels transiting both the new trial corridor and the old existing corridor were then used to compare the number of marine mammals encounters (and hence the potential collision risks) between the two corridor routes. The Company presented the results of the MMO observations during the site visit and reported that:

- No gray whales were observed from vessels using either corridor during the observation period
- The sighting frequency of most other whale species was higher in the old corridor than in the new trial corridor.

This indicates that collision risk may in fact be lower in the new corridor than in the old corridor and, on this basis, the Company is seeking to adopt the trial corridor permanently. However, this will need be discussed and agreed with the WGWAP.

6.5.3 4D Seismic Survey programme

Sakhalin Energy provided a summary overview of the 4D seismic survey performed in 2015, including an overview of the development and implementation of the mitigation plan for the protection of gray whales. The details of the implementation of the mitigation plan were discussed in detail at WGWAP-16 and more particularly during the associated Noise Task Force meeting NTF-9 (to which Ramboll Environ was invited for the first time) subsequent to the site visit. We will provide detailed review commentary for lenders separately once the NTF-9 and WGWAP-16 report are available.

6.5.4 Evolution of the WGWAP

The current WGWAP ToR covers the five-year period from 2011 to 2016. Within this period the work programme of the Panel is defined on an annual basis and contracts for Panel members are also agreed annually as part of this process. The ToR allows for changes in the Panel composition to be made to help ensure that the expertise available in the Panel can best meet the evolving needs of the work programme. The ToR does, however, also include safeguards to ensure that the turnover of Panel members during any one year is controlled in order to maintain consistency and project-specific knowledge. In previous years very limited turnover of Panel membership had occurred. However, in Q4 2015, a small turnover in Panel members occurred as follows:

- Three Panel members left the Panel (two decided not to re-apply and one worked in a technical area that was deemed to no longer require full time specialist input)
- One Panel member was offered emeritus status
- Four new members were appointed to the Panel (partly to cover departing members and a partly to strength experience in selected technical areas).

Overall, from the Lender perspective, the process of Panel renewal, which is managed by IUCN as the Panel convener, appeared to be undertaken in line with the requirements of the ToR.

The development of the Panel ToR for the period 2017-2022 is be managed through a "WGWAP Coordination Group" comprising IUCN, Sakhalin Energy, the Panel co-chairs and Ramboll Environ (on behalf of lenders). A meeting of the Coordination Group took place in Seoul immediate prior to the Site Visit.

A primary requirement of the WGWAP is that it enables Sakhalin Energy to fulfil its commitments to Lenders as defined in the HSESAP. Specifically, the HSESAP includes the following commitments of particular relevance to the WGWAP:

1. The **International Requirements for Managing Risk** document of the HSESAP adopts IFC Performance Standard 1 Assessment and Management of Environmental and Social Risks and Impacts, January 01, 2012.
2. The **International Requirements Biodiversity** document of the HSESAP adopts a range of international biodiversity standards, including IFC PS6 (2012)
3. The **Marine Mammal Specification** document of the HSESAP states that:

"Western Gray Whale Advisory Panel (WGWAP):

 - *Sakhalin Energy has implemented the WGWAP in line with the outcome of the Vancouver Report, and shall support the WGWAP until such time as review by the Company and Lenders results in agreement that this is no longer appropriate.*
 - *Sakhalin Energy shall provide funding for the WGWAP to undertake its activities in line with its agreed terms of reference and shall make best efforts to ensure that the WGWAP*

operates in line with the terms of reference in conjunction with a suitable independent convener.

- *Should the WGWAP cease to operate due to circumstances beyond the control of Sakhalin Energy, Sakhalin Energy shall make reasonable endeavours to instigate an equivalent advisory body. The new body would be convened and operated to the satisfaction of the entities that make up the new body. The Company shall consult with the Lenders throughout this process.*
- *Sakhalin Energy shall keep the WGWAP informed of its offshore activities (including any future seismic surveys) on a regular basis in order that all future priority issues can be identified and reviewed in a timely fashion.*
- *All proposed changes to the MMPP shall be provided to the WGWAP for review.*
- *The Company shall implement all reasonable recommendations from the WGWAP, provided that they comply with Russian law, and to seek support for these recommendations from shareholders, Russian Party and joint industry partners as appropriate."*

The WGWAP has and will need to continue to play the major role to enable the fulfilment of the Company's commitments under the Marine Mammal Specification. However, to date there has been limited consideration of the 2012 IFC PS within the Panel work and advice. This is largely a function of the IFC PS only having been adopted (voluntarily) by Sakhalin Energy after the current WGWAP ToR was already in place. It is therefore a primary focus of the evolution of the WGWAP ToR for the 2017-2022 period that a greater emphasis is placed on ensuring that the advice provided by the Panel to the Company is made in the context of IFC PS6, and especially in relation to advice on concepts of critical habitat and offsets.

The ToR is currently being drafted and will be circulated to observers, including Lenders, for comment in due course.

7. OPPORTUNITIES FOR IMPROVEMENT

A number of opportunities for improvement (OFI) have been identified following the site visit and audits of LUN-A and the Prigorodnoye Production Complex.

It is emphasised that **these do not relate to specific areas of non-compliance** and are therefore not included in the Findings Log (see Section 9), but are suggested for the benefit of either Sakhalin Energy and/or Lenders to either improve performance or, in some cases, avoid future instances of non-compliance.

These opportunities for improvement are summarised below, together with Sakhalin Energy's response for which they are identified as the action party.

| Opportunities for Improvement | | | | |
|-------------------------------|------------------------------|--|--------------|-----------------------------------|
| ID | Topic | Opportunity for Improvement | Action Party | Sakhalin Energy Response |
| 1 | RoW – Slope stabilisation | Sakhalin Energy could consider the value of replacing the deteriorating geojute on the side cuts in the vicinity of KP 514 and using better placement and re-vegetation technique. | SE | To be included in the Action Plan |
| 2 | OPF – Housekeeping | Ramboll Environ observed clutter around the emergency shower in chemical storage area of the OPF, which was corrected immediately by the HoHSE. It is recommended that all emergency shower locations are checked on a regular basis to ensure they can be accessed immediately in the event of an emergency. | SE | To be included in the Action Plan |
| 3 | OPF – Materials storage | The integrally bundled purpose-built lockers for oil and chemical storage located in the yard area were missing padlocks on their sliding doors. These locks should be replaced in order to prevent unauthorised access to these stores. | SE | To be included in the Action Plan |
| 4 | OPF – Oil & chemical storage | Ramboll Environ identified some ten Intermediate Bulk Containers (IBCs) of aqueous film-forming foam (AFFF) concentrate currently being stored without secondary containment in the PMD warehouse, an area not designed for bulk chemical storage. Therefore, it is recommended that this storage practice be reviewed and an alternative location and/or additional containment be considered. As a minimum, IBCs should be moved further away from the warehouse entrance. | SE | To be included in the Action Plan |

| Opportunities for Improvement | | | | |
|-------------------------------|---------------------------------|--|----|-----------------------------------|
| 5 | OPF – Waste Management | It was reported by Sakhalin Energy Construction staff that top soil and sub-soil storage from the OPF Compression Project take place in the area north of OPF used for original OPF construction. However, no Soil Management Plan has been developed in order to properly assess and plan for exactly where, how, and for how long the material should be stored, and what measures are need to minimise erosion. Such a plan is required. | SE | To be included in the Action Plan |
| 6 | OPF – Waste Management | The capacity of current Waste Transit Area should be assessed ahead of commencement of OPF Compression Project construction. Site personnel interviewed (Operations and Construction) were not clear as to the strategy for accommodating waste from both a fully operational OPF and an active OPF Compression Project. Additional capacity is likely to be required either at the same location or a separate purpose-built location. | SE | To be included in the Action Plan |
| 7 | OPF – Occupational H&S | It was observed that the accommodation cabins under refurbishment on the eastern side of the fly camp will be in close proximity to a haulage road, and that at the peak of site preparation works, there will be 24 hour truck movements along this road. It is recommended that Sakhalin Energy Construction conducts a risk assessment, supported by noise monitoring, to determine whether or not workers accommodated in these cabins will be adversely impacted by traffic noise from this road. Depending on the results of the assessment, noise mitigation measures may be required (e.g. particular road surfacing, noise barrier, noise dampening measures on the cabins themselves). | SE | To be included in the Action Plan |
| 8 | OPF – Hydrocarbon contamination | Inspection of two redundant generator units in the northern boundary of the main camp identified oil or oily water sitting in the drip pans within the generators, the access panel to the generator open, the enclosure in which the generators sit in disrepair, hydrocarbon staining on the ground below the fill point on one of the units and what appeared to be oil staining on the concrete to | SE | To be included in the Action Plan |

| Opportunities for Improvement | | | | |
|-------------------------------|-------------------------------|--|----|-----------------------------------|
| | | <p>the rear of the units, adjacent to the back of the enclosure.</p> <p>Whilst no staining was evident on the ground immediately outside of the enclosure, it is recommended that action be taken as soon as possible to drain the residual oil/oily water in the generators and clean up any surface oil sitting on the concrete floor.</p> | | |
| 9 | LUN-A – Assurance | It is recommended that all reports generated from audit and inspection activities clearly state the level of audit/inspection that was conducted, an audit reference (taken from the annual assurance plan) and the scope and purpose of each exercise. | SE | To be included in the Action Plan |
| 10 | HSESAP | The Water Use Standard within the HSESAP (Appendix 6) (Doc. No. 0000-S-90-04-O-0255-00-E) states that " <i>Oil Based Muds (OBM) shall not be used</i> ". Following discussion with Platform personnel and review of the Platform's Environmental Aspects Register (Doc. No. 4000-S-(0-04-T-0001-00), it is clear that OBM is being used at LUN-A (albeit in sections from 22 inches and below). The wording within the HSESAP should be reviewed and clarified accordingly at the next update (noting that all updates to the HSESAP would need to be agreed by lenders). | SE | To be included in the Action Plan |
| 11 | LUN-A – Waste Management | During the Platform inspection, it was unclear as to whether there was an operating procedure/ work instruction in place to cover the decontamination (clean out and emptying) of small-volume former oil and paint tins. It was also noted that containers formally containing mineral oils or refrigerants (both of which are listed in the PNOOLR document), do not appear in the Waste Disposal Limits as separate entries (unlike old paint containers). Sakhalin Energy should to confirm whether or not these are therefore unrecorded waste streams and then revise Waste Disposal Limits accordingly in order to avoid the risk of potential sanctions being applied. | SE | To be included in the Action Plan |
| 12 | LUN-A – CRI impact assessment | It is recommended that the known and potential environmental impacts of the CRI situation at LUN-A (i.e. the potential fracking event) and the | SE | To be included in the Action Plan |

| Opportunities for Improvement | | | | |
|-------------------------------|----------------------------------|---|----|---|
| | | subsequent inter-platform transfer (i.e. additional vessel fuel use and emissions and potential for spills during transfer activities) be appropriately assessed and the outcomes and lessons learned documented and shared through Sakhalin Energy's knowledge sharing system. | | |
| 13 | HSESAP – International Standards | The HSESAP reference to EU Council Directive 67/548/EEC (Classification, Packaging and Labelling of Dangerous Substances) is now out-dated as of 1 st June 2015, when it was replaced in full by Regulation (EC) No. 1272/2008 on classification, labelling and packaging of substances and mixtures (referred to as the CLP Regulation). The HSESAP should be revised at the next opportunity to reflect this change. | SE | To be included in the Action Plan |
| 14 | LUN-A – Training | The PSS was not aware of Directive 67/548/EEC or the CLP Regulation indicating a potential knowledge gap and training need (e.g. in relation to potential changes to hazard classification, hazard pictograms and MSDS). | SE | To be included in the Action Plan |
| 15 | LUN-A – Materials storage | Due to space restrictions, chemical storage practices in the main storage area for drilling-related chemicals in the LUN-A Drilling Module include storing chemical drums on wooden pallets stacked two or three pallets high and two pallets deep. Such pallets are not designed for such storage practices. Further research into racking systems and/or specialist advice is recommended in order to identify a solution to this issue. | SE | To be included in the Action Plan |
| N/A | LNG - Onboarding | During discussions around induction and the onboarding process for new joiners, it was stated that the Sakhalin Energy HSE Competency Assessment should take place as soon as possible after an employee began work but it was permitted to take place up to six months after joining. It was not clear why this six month timeframe had been set. In reality, it was reported by Asset and Central HSE personnel that competency is a key consideration during the hiring process and that formal HSE competency assessments | SE | As per Sakhalin Energy "HSE Competence Standard" there are no fixed requirements with regard to the competence assessment. However, indeed, in many cases HSE competence assessment happens sooner than 6 months in case of 5/2 employees. In case of |

| Opportunities for Improvement | | | | |
|-------------------------------|-----------------|--|----|--|
| | | <p>are usually completed much sooner than six months (i.e. within first month of employment). However, no data were available to verify this. During the site visit, and based on the information made available at that time, Ramboll Environ recommended an OFI whereby Sakhalin Energy re-visits this timeframe and considers reducing it to a maximum timeframe which is shorter yet still practicable.</p> <p>Following the site visit Sakhalin Energy provided further information on the HSE Competence Standard and the practical aspects associated with rotation workers (see Sakhalin Energy response in adjacent column). This response provides some explanation of the Company's approach to management of HSE competencies. However, before determining whether there still remains an OFI in this regard we recommend that further review of the CAP for HSE critical positions, including review of implementation and records, is undertaken by Ramboll Environ during the next site visit. This item has been changed to a "Follow-up Item" (Section 10).</p> | | <p>rotators (28/28) the period for assessment naturally extends up to 6 months. Results of HSE competence assessment are kept in Sakhalin Energy ESS/MSS SAP HCM Portal and LiveLink (for HSE Critical Positions). HSE Competence Assurance Specialists are tracking the preparation to assessment and the records of all relevant personnel. Moreover, competency of Level 1 HSE Critical positions is managed by CAP (Competence Assurance Programme).</p> |
| 16 | LNG - Assurance | <p>There appears an element of uncertainty and inconsistency around the different levels within the Integrated Assurance Plan, in terms of the level and name of each exercise and corresponding reports (i.e. "audit" versus "inspection") and who is responsible for developing the scope and leading each level (i.e. Central HSE or Asset HSE). Whilst it appears that the assurance plan is being implemented, this uncertainty/inconsistency meant that Ramboll Environ was not able to verify progress year-to-date (YTD) against the plan.</p> | SE | To be included in the Action Plan |
| 17 | LNG – H&S | <p>A number of redundant buildings / infrastructure associated with defunct sewage treatment facilities used during the construction phase are still present in close proximity to the operational STP. The derelict condition of these structures poses a potential health and safety risk to personnel working in the area and we</p> | SE | To be included in the Action Plan |

| Opportunities for Improvement | | | | |
|-------------------------------|------------------------|---|----|-----------------------------------|
| | | recommend that they be removed and the site area restored. | | |
| 18 | LNG – H&S | While in general across the facility safety signage was observed to be good, the Auditors noted that the hearing protection sign was missing from the entrance to one of the two main STP buildings. The Auditors observed an operative accessing the building without using hearing protection. The sign was observed on the door to the other building. | SE | To be included in the Action Plan |
| 19 | LNG – Waste management | The Auditors observed a 205 litre drum of waste oil being delivered to Building 10 during the audit. The drum was being transported in the bucket of a Bobcat vehicle without any form of strapping/device to secure the load. Furthermore, the slotted drain over which the vehicle was parked, whilst the drum was offloaded, was identified as a storm drain that discharges directly to a natural drainage ditch. Given the hazardous waste transfer activities that take place in this area, it is recommended that the Company gives consideration to installing a pen-stock valve so that the drain can be isolated in the event of a spill. | SE | To be included in the Action Plan |
| 20 | LNG – Waste management | We note that little progress has been made to upgrade the non-hazardous waste storage area since the site visit in October 2014, and we recommend that efforts are made to ensure that the upgrade works are completed by the Company's estimated completion date of the end of December 2015. | SE | To be included in the Action Plan |
| 21 | LNG – Waste management | It was reported that cut grass and other vegetation from grounds maintenance activities is disposed of to landfill. Given the capacity restrictions at Korsakov Landfill, opportunities to divert this organic waste from landfill should be explored (e.g. composted on site or provided to local farms). Sakhalin Energy has agreed to test options to divert fresh grass cuttings to a local farmer. | SE | To be included in the Action Plan |
| 22 | LNG – Chemical Storage | Storage Room R101, which contained a large number of chemical drums, did not appear to have been designed for such a use (i.e. no sump or lip across the door). It appears that the room was originally designed for dry | SE | To be included in the Action Plan |

| Opportunities for Improvement | | | | |
|--------------------------------------|----------------------------|---|----|-----------------------------------|
| | | storage but ended up as mostly liquid chemical storage. The Company should look for possible mitigation measures to bring it up to standard for liquid chemical storage. As a minimum, chemical drums should be stored further from the entrance. | | |
| 23 | LNG – H&S/ Housekeeping | Heavy levels of guano fouling were observed on the MOF and we recommend that this be cleaned. | SE | To be included in the Action Plan |

8. DOCUMENT REQUESTS

This section provides a summary of information requests where documentation was not available at the time of the site visit.

| Document Requests | | | |
|-------------------|--------------|--|----------|
| ID | Topic | Document | Status |
| 1 | Prigorodnoye | Incident report documentation: 1266707 and 1283180 | Received |
| 2 | Prigorodnoye | Chemical warehouse observations spreadsheet | Received |
| 3 | Prigorodnoye | Prigorodnoye Asset Integrated Assurance Plan (2014) | Received |
| 4 | Prigorodnoye | Waste transfer spreadsheet | Received |
| 5 | Prigorodnoye | HSES MS Audit Report 2015, Contractor: GE Rus Infra | Received |
| 6 | Prigorodnoye | Training Centre (TC) Vega HSE L3 Audit Close-out Presentation | Received |
| 7 | Prigorodnoye | Waste Management Inspections – KPA, Nonoper area 21, SD Camp | Received |
| 8 | Projects | Minor Projects update presentation | Received |
| 9 | BS-2 | BS-2 STP Performance 2012-2015 spreadsheet | Received |
| 10 | Corporate | HSE Audit Report 2015 – Combined OHSAS 18001:2007 and ISO14001:2004 | Received |
| 11 | Social | Reindeer herding report 2015 | Received |
| 12 | Social | Grievances summary 2015 | Received |
| 13 | Social | Letter from Ms Irina Bokova, UNESCO – Vladimir Sangi (Nivkh writer) anniversary | Received |
| 14 | All topics | Electronic versions of presentations delivered by Sakhalin Energy during the visit | Received |

9. FINDINGS LOG

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

- a) All Issues⁴ 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 issues raised in regular reports to lenders since the date of the last IEC visit (i.e. from October 2014 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 and given a reference number (AIR.01, AIR.02 etc.). Items have also been ranked according to Sakhalin Energy's Methodology⁵, 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.

⁴ 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).

⁵ Assessed as per Risk Assessment Matrix

| Findings Log – November 2015 | | | | | | | | |
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| Ref ⁶ | Rank ⁷ | Status | Date | Topic | HSESAP Ref | Finding | Action Progress Review | Action # |
| Air Emissions and Energy Management | | | | | | | | |
| AIR.07 | Low Amber | Closed | 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. | <p>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".</p> <p>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.</p> <p>01.11.12: Sakhalin Energy held a meeting to reassess the requirements and stack survey SoW required to fit the bill. Solutions were agreed.</p> <p>26.11.12: ENVIRON agrees with this approach. Action #612347 can be closed; we await confirmation/evidence that the modifications to the sampling points have been completed prior to closing out Action #612348.</p> <p>11.06.15: Flow diagrams and 'Ready for Ops' certificate provided. Action #612348 and Finding AIR.07 closed.</p> | 612347 - CLOSED 26/11/12 612348 – CLOSED 11/06/15 |
| AIR.12 | Low Amber | Closed | Oct-14 | Emissions monitoring | Air Emissions Standards Comparison, Document 0000-S-90- 04-O-0257- | Training and procedures for the assessment and reporting of air emission monitoring should be reviewed to ensure that site personnel assess compliance against not just regulatory permit requirements but also the | Sakhalin Energy provided additional materials (including corrections to data presented during the site visit) that demonstrate that in fact the site personnel do assess compliance of air quality monitoring with both RF and HSESAP standards. | CLOSED |

⁶ This Findings Log includes all Findings that were open at the date of the previous report (October 2013 in this case), plus newly identified findings.

⁷ **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), Closed (recently closed, since previous IEC report)

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).

| Findings Log – November 2015 | | | | | | | | |
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| | | | | | 00-E App 4, Rev 03 | standards included in the HSESAP. | | |
| Water Use | | | | | | | | |
| WATER.03 | Low Amber | Open | Apr-10 | Water – effluent quality – phenol (OPF) | 0000-S-90-04-O-0255-00-E App 1 | The six most recent monthly compliance checks on process water discharges show significant exceedances of phenol over permitted levels. Part of the problem is that process water is filtered through a single filter rather than the three filter system originally in the plant design. The current system filters total suspended solids but still requires the addition of freshwater to avoid exceeding the hydrocarbon ppm discharge limits. This water is obtained from local surface water sources that are generally from peaty, iron-rich sources which frequently contain naturally occurring phenolic compounds. | <p>Action: Install a permanent treatment system able to control suspended solids, hydrocarbons and phenol while not requiring additional dilution to achieve discharge consents. If the phenol source cannot be eliminated Sakhalin Energy needs to consider putting an activated carbon filter in-line to deal with this problem.</p> <p>Action: Status of existing issues and concentrations, and any future issues to be reported via monthly/ quarterly reporting as per WATER.02.</p> <p>07.06.11: Treatment system to control suspended solids and hydrocarbons: Project is currently being developed, and FEED is in progress to define technical and economic parameters. Investment decision will be considered later this year. If investment decision is taken, then implementation would take approximately two years.</p> <p>Action: Sakhalin Energy to advise on progress towards installing the permanent treatment system.</p> <p>02.09.12: OPF still using temporary disposable TSS filter system, but acknowledges this is OPEX intensive. Also looking to further understand the well capacity to determine whether discharge licences remain appropriate.</p> <p>Oct 13: The current timeline for an upgraded system to be ready to operate is January 2018. In the interim, the Company is assessing whether it would be appropriate to request that the discharge limits for TSS and dispersed hydrocarbon set in the licence for the disposal well be increased.</p> <p>Oct 15: No further update.</p> | <p>467657 - CLOSED 28/6/11</p> <p>618507 - CLOSED 15/11/12</p> <p>NOTE: WATER.03 will not be closed until permanent treatment system is in place.</p> |
| WATER.08 | Low Amber | Open | Sep-12 | Water use permit | Permit compliance | An issue has been identified with the validity of valid environmental | <p>Action: Resolution of this issue is required.</p> <p>27.02.13: Sakhalin Energy has duly developed</p> | Not advised |

| Findings Log – November 2015 | | | | | | | |
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| | | | | | <p>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.</p> | <p>application packs and submitted these to RPN, however the applications have now been rejected due to the above mentioned gap in the existing regulations. In these circumstances a particular decision can only be reached in the court. Meanwhile, the Company cannot dispute the rejection by RPN to issue the discharge permits to the Company as there are no legal grounds to acknowledge such rejection as unlawful. Thus the dialogue with RPN is ongoing on possible ways to legitimately regulate the matter. In the interim, Sakhalin Energy is continuing to operate under the previous permits issued by RTN, including reporting of monitoring results versus limits and payment of normal fees. This is a state-wide issue and does not affect Sakhalin Energy specifically but all industrial enterprises in the Russian Federation.</p> <p>27.02.13: Sakhalin Energy proposes to track the progress through half-year reports leaving the Finding open. It is beyond Sakhalin Energy control and no specific action can be developed.</p> <p>11.04.13: ENVIRON agrees with this approach. Finding remains open.</p> <p>Oct 13: No change. (Note ENVIRON suggestion to Lenders to seek legal opinion from the legal consultant).</p> <p>Oct 14: No change. ENVIRON reiterates suggestion to lenders to seek legal opinion from the legal consultant.</p> <p>Oct 15: New environmental legislation is coming into force from January 2016, which the Company has interpreted as not expressly prohibiting discharge to land. The Company will apply for new permits for the continued discharge of treated water to land under the new legislation, although is also considering alternative wastewater disposal options such as discharge to waterbodies in case permits are not granted.</p> | |

| Findings Log – November 2015 | | | | | | | | |
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| WATER.11 | Low Amber | Closed | Oct13 (PA-A) | Effluent quality | 0000-S-90- 04-O-0255- 00- E Appendix 4 | Discharged effluent from the sewage treatment plant (STP) in early 2013 breached permit conditions. | <p>Action: The issue is already an ORIP item Z8-13894663 STP low reliability. Also on MPQ Risk register, once additional capacity (3rd unit) to treat sewage is available further investigation and tuning of units can be progressed. This will require additional lift station to be installed to allow maintenance & cleaning of existing unit and increase the capacity of this section of the system. The MOC preparation is in progress.</p> <p>Oct 14: New unit to be installed on PA-A working in parallel with existing units), plus improved maintenance. Phenol main issue with some exceedances in early/mid 2014, but below limits in August 2014.</p> <p>15.07.15: The 3rd STP on PA-A is commissioned and ready for use. Technical documentation confirming the work execution was provided.</p> | 757355 – CLOSED 23/7/15 |
| WATER.12 | Low Amber | Open | Oct-13 | Effluent quality LUN-A and PA-B | | Exceedances against HSESAP standards are identified in a number of parameters, although most markedly in relation to phenol concentrations from STP discharges from the PA-B and LUN-A. As previously reported (see WATER.04), Sakhalin Energy has assessed replacement of the STP at the PA-B and LUN-A platforms and determined that the cost of replacement is uneconomic. Based on the age of the STP installed on PA-B and LUN-A, it seems surprising that the performance of these STP falls so significantly below modern discharge standards. | <p>ENVIRON recommends that Sakhalin Energy reviews the vendor data for the STP packages and compares this with actual performance and, if there is a significant difference, then Sakhalin Energy should seek input from the vendor in investigating the reasons for the unexpected level of performance.</p> <p>Action: Contact with Vendor to investigate the reasons of exceedance and ways forward.</p> <p>Oct 14: STP now meet MARPOL standards for BOD (data provided to support this). However, phenols and ammonia remain above permit requirements. IEC recommends that Sakhalin Energy provides a formal written justification for why replacement of systems is not justified on a cost-benefit basis for agreement by lenders.</p> <p>25.02.15: Action #757350 to discuss exceedances with Vendor completed and can be closed.</p> | 757350 - CLOSED 25/02/15 848242 - CLOSED 29/09/15 |

| Findings Log – November 2015 | | | | | | | | |
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| | | | | | | | <p>Action: To provide for agreement by lenders a formal written justification for why replacement of systems is not justified on a cost-benefit basis (#848242)</p> <p>06.07.15: "STP Review for LUN-A/PA-B Platforms" justification note provided to IEC for review.</p> <p>09.07.15: RE reviewed the justification and considers the proposed approach to be reasonable. Agreement of the Lenders was obtained since meeting RF discharge limits is a requirement of lender standards and hence until increased limits are agreed this essentially constitutes a derogation.</p> <p>17.09.15: New permits applied for, although now expected end-2015. In view of this, the Company proposes to:</p> <ul style="list-style-type: none"> • Close current action #848242; • Create a new action "Sakhalin Energy to obtain new permits for platforms effluent discharge" with due date Feb 16; • If authorities do not approve new limits, apply to Lenders for the derogation. <p>Agreed by RE with lender support on 29.09.15.</p> <p>Action: Sakhalin Energy to obtain new permits for platforms effluent discharge.</p> | |
| WATER.15 | Low Amber | Open | Oct-14 | Sewage treatment | GIIP | <p>At the time of the site visit, unit one of the permanent STP units was under maintenance. During the maintenance period untreated sewage was being diverted to one of the older BR-200 treatment units via an aboveground temporary divert hose. This arrangement is not ideal as it</p> | <p>Sakhalin Energy has already developed plans for a permanent underground pipe network to enable transfer of incoming sewage between the different units during maintenance periods.</p> <p>Action: Remove the temporary above ground hose.</p> <p>26.01.15: Sakhalin Energy advises that this has been completed. Project to install permanent pipe is still at approval stage.</p> <p>25.02.15: Action closed, however Finding remains open</p> | 846171 - CLOSED 25/2/15 |

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| | | | | | | leads to increased risk of leak to the environment. | <p>until a more robust connection between the two treatment plants is in place.</p> <p>Oct 15: During the October 2015 audit, the temporary divert hose was still in-situ, and was observed to be exhibiting signs of wear and tear. The temporary hose crosses a number of storm water drainage ditches. The Company reports that as part of the Capital Expansion Projects planned for 2016, an upgrade of the Effluent Treatment Plant and Dehydration Unit is scheduled.</p> <p>Action: Sakhalin Energy to provide update on planned works and timescales as appropriate.</p> <p>14.01.16: Sakhalin Energy advises that the hose is only in place during summer and only used during STP shut down or minor maintenance activities. It is reportedly visually inspected for damage before use and replaced if defects are found, and removed during the winter period. This finding will remain open until completion of the permanent underground pipework between the treatment units, due for implementation in 2018.</p> | |
| WATER.16 | Low Amber | Open | Oct-14 - LNG | Water treatment at LNG | Water Use Standard Comparison Specification 0000-S-90-04-O-0255-00-E App 4 | Some discrepancies were identified in the parameters being monitored in the discharge from the water treatment plant at the LNG site against the monitoring requirements laid out in the HSESAP. Sakhalin Energy recognises these discrepancies and proposes to apply to the authorities to include all HSESAP parameters within its water use permits to ensure compliance with lender standards and consistency across the Company's | <p>Action:</p> <p>1) Revise the Company's monitoring programme for the unification of monitoring requirements (#846244).</p> <p>2) Review and update the HSESAP Water Use Standards Comparison Specification. (#846246).</p> | 846244 846246 |

| Findings Log – November 2015 | | | | | | | | |
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| | | | | | | <p>monitoring programme. Any specific parameters/issues will be discussed with ENVIRON on a case by case basis.</p> <p>Sakhalin Energy also proposes to review and update the HSESAP Water Use Standard Comparison Specification in May 2015.</p> | | |
| WATER.17 | Low Amber | New | Oct 15 (LUN-A audit) | Potable water quality | <p>Occupational Health & Hygiene Standard Overview</p> <p>Doc. 0000-S-90-04-O-0270-00-E App 1, Rev 06</p> | <p>Potable water quality test results reported in August 2015 indicated a non-compliance in relation to chloroform in the hot water supply. An internal investigation concluded that the non-compliance was most likely caused by the use of incorrect sampling containers and that new specifically-designed glass containers were to be used to resample in mid-October. The issue was not limited to the LUN-A asset alone.</p> | <p>As a precaution, the Platform's fresh water treatment system was subjected to a non-routine inspection.</p> <p>Action: Replace all sampling containers and prevent recurrence. Confirm compliance of chloroform in hot water system by provision of monitoring results.</p> | |
| WATER.18 | Low Amber | New | Oct 15 (LUN-A audit) | Cooling water discharge to sea | <p>Water Use Standard Overview</p> <p>Doc. 0000-S-90-04-O-0255-00-E App 1, Rev 05</p> | <p>As of August 2015, the LUN-A Platform's YTD cooling water discharge limit was reportedly exceeded by 60%. An application package to obtain a new water discharge permit (within increased limits) has been developed and submitted to the authorities for approval. Sakhalin Energy expects to have the new</p> | <p>Action: Sakhalin Energy to provide update on permit status.</p> | |

| Findings Log – November 2015 | | | | | | | | |
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| | | | | | | permit in place by the end of 2015. | | |
| WATER.19 | Low Amber | New | Oct 15 | Onshore STP performance | Water Use Standard Overview Doc. 0000-S-90-04-O-0255-00-E App 1, Rev 05 | Sakhalin Energy has reported compliance issues with discharges from a number of its onshore STP, including at its staff accommodation facilities in Yuzhno-Sakhalinsk (Zima) and Korsakov (KPA), at BS-2 and PMDs. The Company has developed action plans to resolve these issues, which include: Zima: change of discharge from a fisheries class stream to a lower class stream (and hence with less stringent discharge criteria) KPA: Develop a new water application package with the aim to agree less stringent discharge limits with the authorities BS-2 and PMDs: Develop STP improvement programmes to return plant to compliance. | Action: To undertake the action plans as developed to bring all STP discharges back into compliance. 14.01.16: The authorities have reportedly advised since the site visit that the stream identified for future Zima STP discharge – the Pravy Stream – is also of fisheries class. Sakhalin Energy is therefore continuing to discharge to the original stream until its discussions with the authorities regarding the Pravy Stream's classification are resolved. If the classification is amended, the Company aims to change the discharge point and obtain new permits by the end of 2016. | |
| Waste Management | | | | | | | | |
| WASTE.16 | Blue | Closed | 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 | 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 – CLOSED 24/7/15 |

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| | | | | | | 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. | <p>Oct 14: Plastic compacts have been purchased at the LNG site to aid waste segregation for plastic recycling.</p> <p>16.07.15: Contract was concluded Sept 1st, 2014. This Contract has rates for utilisation of paper and plastic as well as a list of audited and approved recycling facilities for different types of waste including paper and plastic.</p> <p>24.07.15: Accepted, finding may be closed.</p> | |
| WASTE.20 | High Amber | Closed | Oct-14 | Waste Management | HSESAP Waste management Standard | <p>Urgent actions required as revised waste strategy in light of loss of access to Nogliki and Smirnykh landfills from Nov 2014 and limited capacity at Korsakov (combined with additional wastes to be generated by future projects such as the OPF Compression project):</p> <ul style="list-style-type: none"> • Develop a transport plan for transfer of waste from north to Korsakov (including consideration of rail transport) • Develop a contingency plan for transfer of waste to the mainland, including: | <p>SE Response: Transport plan is no longer applicable due to RPN's prohibition to dispose of waste from the north and middle of the island to Korsakov.</p> <p>Actions:</p> <ol style="list-style-type: none"> 1) Sakhalin Energy to conduct Tender for the following services – to transport and utilise waste of classes 4 and 5 off the island; 2) Sakhalin Energy to audit potential waste disposal facilities. <p>Oct 15: Sakhalin Energy has confirmed its medium term waste management strategy in selecting two waste contractors to transport waste to waste management facilities on mainland Russia. We understand that Sakhalin Energy has now audited these facilities. Sakhalin Energy's proposed longer term strategy is to develop its own waste facilities at the OPF and Prigorodnoye Production Complex.</p> <p>Action: Sakhalin Energy to provide details of (i) the proposed mainland landfill facilities to be used under</p> | 846198 – CLOSED 16/12/15 |

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| | | | | | | <ul style="list-style-type: none"> Identify & audit potential waste disposal facilities A waste transport strategy Initiation of contract negotiations with waste contractors (transport and disposal) | <p>these contracts and (ii) the findings of the Company's audits of these facilities, for review.</p> <p>16.12.15: Evidence provided to show that (i) contracts are in place for the transportation of Class 4-5 waste to off-island treatment/disposal facilities and (ii) audits have been undertaken of the two selected off-island treatment/disposal facilities. Although the Vladivostok landfill has only c. 11 months' capacity remaining, Sakhalin Energy advised that the operator has plans to extend the landfill, and also that a further off-island landfill option is currently being investigated by the contractor. Finding closed.</p> | |
| WASTE.21 | High Amber | Open | Oct-14 | Waste Management | HSESAP Waste management Standard | <p>Medium term actions as revised waste strategy in light of loss of access to Nogliki and Smirnykh landfills from Nov 2014 and limited capacity at Korsakov (combined with additional wastes to be generated by future projects such as the OPF Compression project):</p> <ul style="list-style-type: none"> Undertake a detailed waste generation assessment for the OPF Compression project to: <ul style="list-style-type: none"> Understand the volume and types of waste to feed into waste strategy Consider waste minimisation opportunities as a priority Start geotechnical studies into OPF site to assess its | <p>Waste Generation Assessment: Information is included in ESHIA and is available for internal calculation of waste volumes and types together with waste minimization opportunities. Updates if any will be provided within the review of the updated ESHIA for OPF Compression Project. <i>[Geotechnical Studies: Sakhalin Energy has informed ENVIRON (after the October 2014 site visit) that it has reviewed available data and not identified major geotechnical issues at the site but that detailed surveys will be undertaken as part of the facility design. ENVIRON will review this data when available. This action is ON HOLD: SE project team and approach has not yet been identified; information on the action cannot be compiled currently.]</i></p> <p>Oct15: Updated OPF Compression Project ESHIA provided to Ramboll Environ for review on 28.10.15. Ramboll Environ has provided its review comments to Sakhalin Energy and awaits its response.</p> <p>18.01.16: SE advises that the ESHIA was updated with the latest waste volume estimates and SE's new waste</p> | 846201 |

| Findings Log – November 2015 | | | | | | | | |
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| | | | | | | <p>suitability for the construction of waste facilities and the associated design implications</p> | <p>management strategy, which calls for disposal of waste class IV – V at the mainland landfills.</p> <p>21.01.15: Ramboll Environ considers that the ESHIA does not address in sufficient detail the important issue of waste minimisation or give specific details on which landfills will be used (and confirming that construction wastes will be permitted at these landfills – a specific concern raised by Sakhalin energy during the last site visit). This information should be included in the Company and EPCC waste management plans for the OPFC Project. Action kept open until waste management plans are developed.</p> | |
| WASTE.22 | High Amber | New | Oct-15 | Waste management | HSESAP Waste management Standard | <p>The development of a waste management strategy in the north of the island is now a critical and urgent issue to be addressed by the Company in order to ensure that OPFC project construction wastes are to be appropriately managed.</p> | | |
| WASTE.23 | High Amber | New | Oct-15 | Waste management | HSESAP Waste management Standard | <p>The suggested location for the waste management facility at the OPF is in an area that has been identified in the OPFC project draft ESHIA as the site of a red data book (RDB) lichen species, and also one of the areas identified as a possible relocation/offset site for lichen habitat loss anticipated for the OPFC project. This both emphasises the need for greater communication between different</p> | | |

| Findings Log – November 2015 | | | | | | | | |
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| | | | | | | development projects' teams within the Company and also the need for further options appraisal for the development of the waste management facility. | | |
| Soil and Groundwater | | | | | | | | |
| S&GW.08 | Low Amber | Closed | Oct-14 (LNG site visit) | Storage of Hazardous Materials | 0000-S-90-04-O-0018-00-E | Some plastic containers were noted in one of the LNG sewage treatment plant (BR-200) without labels or secondary containment. From discussions with site personnel, these were thought to contain polyaluminium chloride (PAC), a flocculent used in the plant. All hazardous materials should be clearly labelled and provided with secondary containment. | Action: Arrange proper labelling of polyaluminium chloride (PAC) in the water treatment facilities. Set up practice for empty drums removal straight after emptying. 15.01.15: Every plastic container has been labelled with content inside. Practice has been set up for empty drums removal straight after emptying. 27.02.15: All containers reportedly labelled and put into secondary containment. Action closed. | CLOSED - 27/02/15 |
| S&GW.09 | Low Amber | Closed | Oct-14 (LNG site visit) | Storage of Hazardous Materials | 0000-S-90-04-O-0018-00-E | Unlabelled empty plastic containers (identical to the PAC containers at BR-200) were found stored on a grid over the site rainwater drain near the LNG site temporary non-hazardous waste storage area. Although the containers were empty, it is poor practice to storage such containers in unprotected areas, and especially over the site drain that discharges to the environment (especially noting that PAC is harmful to aquatic species). | Action: Instruct Civil Supervisor on the safe chemical storage requirements during maintenance works. 25.02.15: Containers were reportedly removed from site by contractor. Action closed. | CLOSED - 27/02/15 |

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| S&GW.10 | Low Amber | Closed | Oct-14 (LNG site visit) | Storage of Hazardous Materials | 0000-S-90-04-O-0018-00-E | Oil drums at the site of the GTG1 maintenance works at the LNG site were found stored at the edge of the hardstanding area (i.e. close to unprotected soil) and without any secondary containment. | Action: Relocate drums to the protected area 25.02.15: Drums reportedly removed from site for disposal, according to waste management plan of LNG. Action closed. | CLOSED - 27/02/15 |
| S&GW.11 | Low Amber | New | Oct-15 (OPF) | Surface water Management | Water Use Standard – 0000-S-90-04-O-0255-00-E App 7 | Rivulets of silt-laden water were observed to be flowing across the fly camp area (OPF Compression temp accommodation) and into surrounding drainage ditches. These drainage ditches were not properly constructed and the check-dams in place were not frequent enough, nor properly formed. Furthermore, there was no settlement pond in place, nor any de-watering procedures or other measures in place to reduce the silt load into the ditches. Silt-laden water was observed to be exiting the OPF site to the north and entering what appeared to be a natural stream. | | |
| Land Management | | | | | | | | |
| LAND.16 | Low Amber | Open | Oct-11 | Land mgmt – reinstatement of sandy and steep slopes | 0000-S-90-04-O-0254-00-E App 6 | 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 | Action: Incorporate IEC recommendations on biological reinstatement improvements into RoW plans. Action: Develop an Action Plan for sandy and steep slope revegetation. Sept 12: Action 612568 for 2012 closed. New action(s) to be opened for 2013 season. Oct 13: General improvements in re-vegetation were | 612568 - CLOSED Sept 12 |

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| | | | | | | improved have been identified by the IEC in the October 2011 Site Visit report and these should be actioned by Sakhalin Energy. | identified but continued further efforts are still required. Oct 14: General improvements in re-vegetation were identified but continued further efforts are still required. Oct 15: Erosional channels and poor/partial vegetation cover were observed during the monitoring visit; additional re-vegetation efforts and maintenance of drainage and erosional control are still considered required. | |
| LAND.17 | High Amber | Closed | Oct-11 | Tree growth on RoW | RF Requirement | 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>[Summarised for brevity – further detail in previous monitoring visit reports]</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 12: Observed and discussed during Sept 12 monitoring visit. While maintenance activities were seen to be undertaken, further major efforts are required in order to get tree growth under control. Action 612571 for 2012 closed. New action(s) to be opened for 2013 season.</p> <p>Oct 13: The continued presence of tree saplings along the RoW is such that it is now becoming a significant compliance issue. Finding raised to High Amber.</p> <p>29.06.14: Sakhalin Energy conducted assessment of tree cutting methodology (#757375). Also provided confirmation from Pipelines Department on the application of the provided methodology. However Environ remains unclear how the final strategy differs significantly from the current approach, and does not concur with SE's argument to dismiss root removal altogether.</p> <p>SE to continue tree cutting programme with increased scope of work (#757376). Special plots on RoW will be</p> | 612571 – CLOSED Sept 12 757375 757376 |

| Findings Log – November 2015 | | | | | | | | |
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| | | | | | | | <p>indicated for applying 2 cutting methodologies as indicated by ENVIRON to compare with traditional cutting.</p> <p>Oct 14: Marked increase in number of trees identified during site visit and increased efforts to control are required.</p> <p>Oct 15: While tree control will remain an ongoing issue, the Company does now appear to have maintained the issue of tree growth at a steady level. On this basis this issue is closed from the Findings Log but remains an ongoing monitoring item.</p> | |
| LAND.19 | Low Amber | Open | Oct-13 | Wetlands | RemAP | <p>The limited visual observations of wetland areas made during the October 2013 site visit identified differing levels of recovery between different wetland areas, and this is consistent with both the findings of the September 2012 site visit and also Sakhalin Energy's own ongoing wetland monitoring programme. In cases where weaker recovery was identified, this is likely to 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. ENVIRON recognises that measures to remove the remaining imported materials and infill depressions would require the use of heavy</p> | <p>Action: We recommend that Sakhalin Energy conducts detailed assessments of all poorly regenerated wetland areas to identify all factors impeding re-vegetation. In the case of sites where importation of materials and/or depressions are identified as key drivers for poor re-vegetation, ENVIRON recognises that measures to remove any 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 at such specific sites, then it is recommended such measures may need to be considered in these areas.</p> <p>SE Action: Include the problem areas in the Wetland monitoring programme for 2014 and assess the results including the factors influencing recovery rate of the areas.</p> <p>Oct 14: Significant improvements in viewed areas during site visit. Of the site viewed, the exception to this is the wetland between KP 230-231, which is not recovering well and is showing signs of dewatering.</p> | <p>757372 – CLOSED 9/4/15</p> <p>846204 - CLOSED for report 2/4/15</p> <p>CLOSED for culverts 20/10/15</p> |

| Findings Log – November 2015 | | | | | | |
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| | | | | | <p>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 Sakhalin Energy's future wetland monitoring programme, then we recommend that such measures may need to be considered.</p> | <p>SE Actions:</p> <ul style="list-style-type: none"> • Develop and approve Action Plan to remediate the issue (#846203). • Execute the project of installation of the drainage system under the temporary access road (#846204). • Install additional transect closer to KP231 to look at the effects of the mitigation (#846207). • Continue monitoring of wetland condition at transect #22 for comparison of 2 transects' wetland condition (#846209). <p>24.03.15: "WETLAND AREA AT PIPELINE CROSSING AT KP 230 – KP 231" Report provided for review (#846204). ENVIRON agrees that report identifies the issue and sets out the actions the Company plans to take.</p> <p>30.03.15: "Wetland Monitoring – Assessment of Condition" Report provided for review (#757372). Report found acceptable, action closed.</p> <p>10.08.15: Update to report provided: new chapter and link to map with proposed culverts. RE finds this acceptable.</p> <p>01.10.15: #846204: The Project of installation has been executed according to "Wetland area at pipeline crossing at KP 230 – KP 231" report and photos provided. Ramboll Environ satisfied with the installation of new culverts.</p> |

| Findings Log – November 2015 | | | | | | | | |
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| Biodiversity | | | | | | | | |
| BIODIV.08 | Low Amber | Closed | Oct-13 | Env. monitoring | Local monitoring programmes, HSE-MO | Sakhalin-3 activities are likely to affect areas of Sakhalin Energy's environmental monitoring programme around the OPF. | <p>Action: We recommend that Sakhalin Energy reviews all of its environmental monitoring locations and transects etc. in order to determine the extent to which they may be affected by Sakhalin-3 activities and to consider what amendments to its programme may be appropriate.</p> <p>SE Action: Sakhalin Energy to review Local monitoring Programmes</p> <p>09.06.14: Sakhalin Energy is currently in the process of revision and approval with ENVIRON of the Onshore Local monitoring Strategy Reports, and ask for the closure of this specific action related to OPF.</p> <p>22.06.14: The Action can be closed, but the Finding stays open until the review of the strategies with ENVIRON is complete.</p> <p>Oct 15: Ramboll Environ has iteratively reviewed the latest updates to the suite of Monitoring Strategy Reports, and all onshore reports have now been updated and agreed.</p> | 757384 - CLOSED 22/06/14 |
| Oil Spill Response | | | | | | | | |
| OSR.27 | Low Amber | Open | Oct-11 | Non-Mechanical Response Options and Capability | 0000-S-90-04-O-0014-00-E Appendix 15 | 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 | <p>[Summarised for brevity – further detail in previous monitoring visit reports]</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>17.07.13: During the July 2013 Tier 3 OSR exercise, SE tested its ability to prepare the necessary background information and forward an application to RF Authorities for the use of dispersants on an offshore spill. Approval</p> | 594741 - CLOSED 7/8/12 Expect six-monthly updates in half-yearly HSESAP reports |

| Findings Log – November 2015 | | | | | | | | |
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| | | | | | | <p>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>was quickly obtained and the use of dispersants was successfully simulated via the identification of capable aircraft and vessels, and the validation that these resources, together with the necessary dispersants, could be obtained. The IEC considers this a noteworthy development in bringing RF Authority partners closer to allowing non-mechanical response options for large offshore spill events.</p> <p>Nov 14: Q3 2014 HSESAP report advises that the use of dispersants has been pre-approved by authorities. In-situ burning is under discussion.</p> <p>Feb 15: Dispersants application in Russia only applies to limited obsolescence Corexit 9527 stock. Company is planning to work on an approval of modern dispersant Corexit 9500 in Russia, and plans to purchase additional modern stockpile. Company is working on purchasing of Helicopter dispersants application systems.</p> | |
| OSR.36 | Blue | Closed | Oct-13 | Storage of OSR equipment | 0000-S-90-04-O-0014-00-E Appendix 15 | <p>Sakhalin Energy should ensure all inventory lists for OSR equipment are also provided in English</p> | <p>05.05.14: SE Response: Inventory lists were provided to PCCI some time ago. If new equipment is obtained the list will be updated accordingly.</p> <p>13.06.14: PCCI recommends all OSR Equipment Lists be in English as well as Russian - Sakhalin Energy states that all such lists are in English and Russian. PCCI's comment</p> | |

| Findings Log – November 2015 | | | | | | | | |
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| | | | | | | | should have said "Recommend that all equipment in the storage warehouses be labelled in English as well as Russian". Much of this equipment is, but PCCI saw some equipment with no labels, or no English labels. Note this is not a deficiency. Oct 15: Finding closed | |
| Health & Safety | | | | | | | | |
| H&S.15 | Low Amber | Closed | Oct 14 (LNG site visit) | Health & safety (and ground contamination) | GIIP | While the provision of eye-wash facilities and spill kits was generally good at the [LNG] site as a whole, in the case of the hazardous waste facility these were hidden in an unmarked closed cupboard. Eye wash facilities and oil spill equipment should be readily accessible and signed wherever present. | Action: Relocate eye washing kit to more visible / accessible location. 26.01.15: Photographs provided of eyewash in prominent and accessible location. Finding closed. | CLOSED 11/02/15 |
| H&S.16 | High Amber | Open | Oct 14 (LNG site visit) | Health & Safety (NORM) | GIIP | Sakhalin Energy to revise its NORM procedures. The revised procedures will be reviewed during the next site visit. | Action: Sakhalin Energy should confirm the following in relation to the recorded LSA on the PIG in 2010: a. The actual levels of LSA recorded by the PIG contractor on the equipment; b. How sludge/debris generated at the LNG during the 2010 PIG activity was handled and disposed of; c. Whether any investigation or actions into the reported LSA levels were undertaken at that time (i.e. in 2010). In addition Sakhalin Energy should confirm: a. Its NORM monitoring procedures for PIG equipment, including PIG activities on both the gas and oil pipelines; b. Whether it has PIG treatment facilities at the OPF. 02.03.15: Sakhalin Energy advises that it conducts annual monitoring for ionizing radiation on all equipment deemed to be at risk of exposure (e.g. Well Work-over | 846195 |

| Findings Log – November 2015 | | | | | | | | |
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| | | | | | | | equipment and at Separation equipment at Platforms and OPF). Results of such monitoring have reportedly never revealed any exceedances of RF or International limits (OGP) and in fact are far below limits. The Company has decided to formalize various control measures by updating its procedure on management of NORM. Oct 15: No update provided during monitoring visit discussions. | |
| Social | | | | | | | | |
| SOC.08 | Blue | Closed | Oct-14 | Information Disclosure / Community Impacts | SP Standard Public Consultation and Information Disclosure (0000-S-90-01-O-0021-00-E App 7, Rev 02) | Dacha owners complained on lack of advance information on the fire response exercise held on 26.09.2014 which caused disturbance due to noise and smoke. As per the HSESAP Public Consultation and Information Disclosure (PCID) specification, Sakhalin Energy is committed "to notify public concerning any project activities that may have an impact on the communities". | Action: The company will warn dacha owners about weekly testing scheduled for Wednesdays at 10:00 (during dacha season – May-October). The company will notify dacha owners in case of unscheduled drills but the company will not be able to warn in case of false alarms. 23.06.15: A letter was sent to dacha owners in May, as a reminder of the scheduled sound system check at Prigorodnoye complex. The representative of dacha cooperative was informed of the unplanned alarm sound of 18th June the day before (i.e. 17th June) by phone call. 03.07.15: Ramboll Environ requested additional details on where this arrangement is embedded in SE's formal procedures (e.g. with specified minimal timeframes for notification, responsible persons), and if are there any alternative ways of notification. 08.07.15: All engagement with dacha owners will be described in PCDR 2015 and notification about unplanned alarms will be added into PCDP 2016. SE has no other ways, except telephone, to notify dacha owners of unplanned drills due to limited time. After getting info on unplanned alarm from Prigorodnoye complex, SE informs dacha co-operative immediately. SE has telephone numbers of other members of the co-operative in case the | 846260 - CLOSED 8/7/15 |

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| | | | | | | | primary contact person is not available. Ramboll Environ agrees to action closure. | |
| General | | | | | | | | |
| GEN.07 | Blue | Closed | 01/10/2014 (LNG site visit) | HSE Auditing (LNG) | EMS | While the LNG site audit timetable for 2014 generally shows the status of the proposed audits (as 'planned' or 'completed'), there are a number of audits apparently scheduled for Q3 or earlier for which no indication of status is provided and it is therefore unclear whether these audits have been completed or not (and if not, whether they have been rescheduled). In addition, there are a number of audits indicated as being scheduled for Q4, but for which planned dates have not been included on the timetable. The audit programme to be reviewed and corrected. | <p>Action: Review and correct Prigorodnoye Asset audit timetable for 2014 (Internal Assurance Plan) to show the status of the audits ('completed', 'rescheduled', 'cancelled', 'deferred to 2015', etc.)</p> <p>23.04.15: LNG audit programmes for 2014 and 2015 provided</p> <p>29.05.15: Closed following full completion of the 2014 programme.</p> | 846217 - CLOSED 29/5/15 |
| GEN.08 | Blue | Closed | 01/10/2014 (LNG site visit) | HSE Auditing (LNG) | EMS | The audits planned in 2014 do not include a system-wide audit of the HSE-MS at the Prigorodnoye production complex. We note that it is good practice to undertake such system-wide audits on an annual basis at each asset (i.e. Level 3) and, as a minimum, at least once during the re-certification cycle. Period Level 2 audits of the management | <p>Action: Sakhalin Energy to revise HSE audit procedure.</p> <p>21.05.15: Procedure updated and provided for review.</p> <p>29.05.15: According to the Prigorodnoye asset audit schedules (as provided for action #846217), a system-wide audit of the HSE Management System (HSE-MS) was not undertaken in 2014, and there does not appear to be one scheduled in 2015. The HSE Audit Procedure does not specify frequency or scheduling of HSE-MS audits. Please advise when the Company plans to undertake audits of its HSE-MS, both at asset-level (Level 3) and overarching (Level 2).</p> | 846221 - CLOSED 17/07/15 |

| Findings Log – November 2015 | | | | | | | | |
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| | | | | | | system should also be undertaken. We recommend that the approach to system-wide audits at the Company (Level 2) and Asset (Level 3) levels are further defined | 17.07.15: SE provided HSE-MS schedule showing next Level 2 audit arranged for October 2015. Maintaining an HSE-MS audit plan covering all assets satisfies and closes RE's Finding. Progress against this and preliminary audit planning for 2016 will be reviewed during our audit in October. Finding closed. | |
| GEN.09 | Blue | Closed | 01/10/2014 (LNG site visit) | HSE Auditing (LNG) | EMS | A number of Level 4 'audits' are included in the audit programme that are, in effect inspections rather than audits. We recommend that the distinction between audits and inspections is clarified within the management system and that these are treated separately | Action: Sakhalin Energy to revise HSE audit procedure. 21.05.15: Procedure updated and provided for review. 29.05.15: While the HSE Audit Procedure does not refer to Level 4 audits, the 2015 Prigorodnoye audit programme still refers to some Level 4 inspections as 'audits' (e.g. Waste Handling Quarterly Audits). This should be corrected. 17.07.15: SE confirmed that audits aren't tracked, as they are considered to be the inspections and inspections are within the scope of Level 1,2,3 audits. RE satisfied that they are now referred to as inspections. We further suggest that the terminology in the asset plans' audit schedules (e.g. the Prigorodnoye one mentioned above) is also corrected. In this regard, Finding is closed. | 846226 - CLOSED 17/07/15 |
| GEN.10 | Low Amber | Closed | 01/10/2014 (LNG site visit) | HSE Management Systems | EMS | The dual use of the Fountain and Company-specific Action Tracker reporting systems should be reviewed. Furthermore, if these two systems are to be used in parallel then: a. Written criteria need to be developed (and included in Sakhalin Energy's management systems) to determine which of the two systems is used to record/track individual incident/audit findings and recommendations. | Action: Sakhalin Energy to revise HSE audit procedure. 21.05.15: Procedure updated and provided for review. 29.05.15: It is understood that actions arising from Level 1 and Level 2 audits are entered into the Fountain system. However from one description (taken from the revised HSE Audit Procedure, p.18), it is still unclear which tracking system is used for Level 3 audit actions, and also unclear whether the "action tracker system" referred to above is the Company's 'Action Tracker' or Fountain. Clarification needed. 02.07.15: RE also requested consideration of suggestion that Findings with the potential material consequence should certainly be reported and tracked in Fountain, rather than just 'considered'. | 846229 - CLOSED 17/07/15 |

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| | | | | | | b. Both system need to be fully recognised at both the asset and corporate HSE teams. | 17.07.15: Confirmation received that findings of potential material consequence are "reportable" to the BAC/BoAC and reported in Fountain, not only 'considered'. Acceptable and finding closed. | |

10. FOLLOW-UP ITEMS

This section summarises the follow-up items identified throughout this report, which are neither Findings nor Opportunities for Improvement, but a list of topics or issues that Ramboll Environ (RE) intends to follow up on, either as part of future audits or monitoring visits or by requesting further information from the Company (as and when available).

| Follow-Up Items | | | |
|-----------------|-------------------------------------|--|--|
| ID | Topic | Description | Mechanism |
| 1 | Tree Control on RoW | While tree control on the RoW will remain an ongoing issue, the Company does now appear to have maintained the issue of tree growth at a steady level. On this basis we recommend that this issue is closed from the Findings Log but remains an ongoing monitoring item. | Annual IEC monitoring visits |
| 2 | OPFC Project | We note that some of the fly camp facilities (and other proposed temporary camp area) appear to be close to the existing sanitary protection zone (SPZ) and Sakhalin Energy should confirm that only permitted camp facilities are located within the SPZ. | Confirmation from SE |
| 3 | OPFC Project | The ESHIA for the OPFC project had not been updated at the time of the site visit and Ramboll Environ notes that this will need to be provided and agreed by lenders prior to commencement of early works. In addition, the following will also be required and agreed with lenders: <ul style="list-style-type: none"> • Environmental and social management plans <ul style="list-style-type: none"> • Dedicated plans for construction • Waste management plan • Update of HSESAP for operation • SIMOPS procedures. | SE to provide requested information RE to review |
| 4 | LNG Train 3 – Associated Facilities | While the upstream facilities to provide gas to the Sakhalin Energy system would not be part of the Train 3 project itself, it is very likely that under the IFC Performance Standards (and other international lender standards) these facilities would need to be considered as Associated Facilities. Depending on the nature of the upstream facilities, this could include upstream field developments, treatment facilities and pipeline systems. We recommend that the issue of potential associated facilities be considered at an early stage of the project development. | SE/RE/lender discussions |
| 5 | LNG Train 3 – SPZ | The addition of a third train at the LNG facility will lead to increased air and noise emissions, which in turn have the potential to result in an increase in the SPZ around the Prigorodnoye Production Complex. We recommend that Sakhalin Energy undertakes early air quality and noise modelling to provide an early indication as to whether any | SE to report on modelling and stakeholder engagement |

| Follow-Up Items | | | |
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| | | increase in the SPZ may affect the local dacha community and specifically whether this may lead to any resettlement being required. Timely communication with the dacha communities is also recommended in relation to Train 3. | |
| 6 | Gas Pipeline Blowdown Project - Venting | Ramboll Environ requests that air and noise dispersion studies at residences in proximity to affected valve stations are provided for review when available. In addition, we note that venting would also have the potential to impact on ecology, especially in relation to noise disturbance that could be particularly significant to nesting birds. While noting that such venting would only be performed in emergency or major pipeline repair scenarios, we nonetheless recommend that the modelling be reviewed when available to confirm whether noise impacts could affect sensitive and/or protected nesting birds species such as Steller's Sea Eagles and, of so, what mitigation measures could be developed. | SE to provide requested information RE to review |
| 7 | Waste management | We agree that the transport of waste to facilities on the mainland is a reasonable medium term solution to the current waste management situation. However, we request that details be provided of the proposed mainland landfill facilities to be used under these contracts. We understand that Sakhalin Energy has audited these facilities and therefore we request that the findings of these audits be provided to Ramboll Environ for review. | SE to provide requested information RE to review |
| 8 | Waste management | While generally supporting Sakhalin Energy's strategy of developing its own waste management facilities, we note that these facilities should be designed to meet lender standards and that key elements of this are: <ul style="list-style-type: none"> • Risk assessment should be applied to the design and location of the facilities • The designs will need to meet IFC PS and IFC EHS Guidelines for Waste Facilities. | SE to provide risk assessment and landfill design as/when available |
| 9 | Waste management | Sakhalin Energy needs to avoid delays in the development of plans for a waste management facility at the Prigorodnoye Production Complex in order to ensure that its timeline for development keeps pace with that of the Train 3 Project in order to avoid the issues encountered at the OPF. | SE to manage |
| 10 | Waste management | Sakhalin Energy should keep lenders updated on progress towards resolution of the issue of payment of fees for cuttings re-injection. | SE to update lenders as appropriate |
| 11 | Well Control | Sakhalin Energy provided a presentation on updates to its well control contingency plan (WCCP) that covers well control events and their direct consequences on the LUN-A, PA-A and PA-B platforms. As part of the review the quantitative | Technical/reserves review of QRA SE review spill profiles in OSRPs |

| Follow-Up Items | | | |
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| | | <p>risk assessment (QRA) is being updated. We recommend that:</p> <ul style="list-style-type: none"> • The lenders technical and/or reserves consultant reviews the QRA • Sakhalin Energy use the results of the QRA exercise to update the spill risk profiles in its oil spill response plans (OSRP) as appropriate. | |
| 12 | LNG – Onboarding | <p>During discussions around induction and the onboarding process for new joiners, it was stated that the Sakhalin Energy HSE Competency Assessment should take place as soon as possible after an employee began work but it was permitted to take place up to six months after joining. At the time of the visit it was not clear why this six month timeframe had been set.</p> <p>Sakhalin Energy has since provided further information on the HSE Competence Standard and the practical aspects associated with rotation workers, which provides some explanation of the Company's approach to management of HSE competencies. However, we recommend that further review of the CAP for HSE critical positions, including review of implementation and records, is undertaken by Ramboll Environ during the next site visit.</p> | RE to review at the next monitoring visit |
| 13 | LNG – Waste Management | <p>In accordance with the Waste Management Standard (0000-S-90-04-O-0258-00-E), Ramboll Environ considers that it would be beneficial to the Company if waste minimisation was considered at the planning and design stage for each capital project and not only afterwards (i.e. in the HSE Plan for execution). Factors such as sustainable material selection, material substitution, minimising packaging, return/reuse of excess materials, and re-use/recyclability at end of life should be considered, alongside engineering specification and cost.</p> <p>Following the site visit, Sakhalin Energy advised that it implements an 'Opportunity Realization Process' which considers waste minimisation. While Ramboll Environ has seen evidence of material reuse during a project's implementation, we have not had an opportunity to examine practical examples of how this is planned at project conception. We intend to discuss this item during the next monitoring visit.</p> | RE to discuss with SE during next monitoring visit |

APPENDIX 1

TERMS OF REFERENCE AND VISIT SCHEDULE

APPENDIX 1: TERMS OF REFERENCE

Background

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, 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 undertake:

Level 1 Audit once every two years (see CTA clause 4.6.1):

"Following the Completion Date and once every two years thereafter, the Company shall at its expense arrange for a Level 1 audit to be carried out by the Independent Environmental Consultant in accordance with the provisions of paragraph 4.6.3 below. Such audit shall focus on any of the Project Facilities or any Project Expansion Facilities or any major issues affecting or arising from the Project or any Project Expansion which shall be selected by the Phase 2 Senior Lenders in their discretion. The audit shall review the Company's compliance with material Environmental Law, Environmental Consents, Project Expansion Environmental Consents and/or Interim Environmental Permissions and the HSESAP. The Independent Environmental Consultant 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 shall obtain the prior consent of the Phase 2 Senior Lenders (acting Reasonably) to the terms of reference of the Independent Environmental Consultant's audit or review which shall (a) specify the timetable for preparation, comment on and final delivery of the report, (b) make provision for access for the Phase 2 Senior Lenders to the Independent Environmental Consultant for the purposes of consultation provided that any requests from the Phase 2 Senior Lenders for the Independent Environmental Consultant to carry out any additional work beyond the agreed terms of reference of such audit or review shall be subject to the prior approval of the Company (acting reasonably), and (c) include an obligation upon all parties thereto to act expeditiously in the planning, undertaking and closing out of any audit process and to use all reasonable endeavours to ensure that all Level 1 audit reports prepared under this paragraph 4.6.3 are delivered directly to the Phase 2 Senior Lenders and copied to the Company."

Objectives

The overall purpose of the Level 1 Audit is to determine conformance with the HSESAP requirements in managing the identified HSE and Social Performance (SP) risks, compliance with legal and other requirements and continual improvement.

Scope

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

Level 1 Audit:

Areas/facilities:

- Prigorodnoye Production Complex
- LUN-A Platform

Monitoring Visit:

Areas/facilities:

- Pipeline RoW, to include rivers and wetland locations
- OPF

Office Discussion Topics:

- General project status (including production issues and flaring)
- Environmental compliance action plan
- STP performance
- Social performance
- Review of open findings from previous visits
- Local Monitoring Programmes and Monitoring Strategies
- Waste management, specifically:
 - Off-island disposal / on-island incineration approval
 - Status of Korsakov landfill (inclusion in GORORO)
 - Landfill capacity and long-term strategic waste management planning
 - Waste minimisation initiatives
 - Long term waste strategy status (waste facilities at OPF and LNG sites)
 - Landfills design specification
- RoW updates, including: vegetation cover, maintenance, tree management, wetlands recovery, and known high risk locations
- Gray Whales, including WGWAP next phase and 2015 seismic survey
- Ongoing/future projects, including OPF Compression Project, LNG Train-3.

Parties involved in this audit:

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

| Project Monitoring Visit | |
|--|---|
| Ramboll Environ Personnel | Sakhalin Energy Personnel |
| Jon Hancox (Overall team leader, environmental and social issues) Paul Bochenski (Environmental issues) Andrew Snow (Environmental issues) | Rob Van Velden (Finance Director, Audit Sponsor) Natalia Matveenکو (Treasurer, Auditee) Zhanna Lyubaeva (Senior Loan Compliance Officer, Audit Focal Point Project Finance) Elena Solonenko (Loan Compliance Specialist, Audit Coordinator Project Finance) Stephanie Lock (HSE General Manager, Audit Focal Point HSE) Johann Moller (HSE Assurance Manager, Audit Focal Point HSE) |

| Project Monitoring Visit | |
|---|---|
| | Olga Melnik (HSESAP Engineer, Visit Assurance Coordinator) Natalia Gonchar (Head of Social Performance Subdivision, Focal Point SP) Marina Ee (Lead Specialist of Social Performance Subdivision, Visit Assurance Coordinator SP) |
| Level 1 Audit – LNG Plant | |
| Ramboll Environ Personnel | Sakhalin Energy Personnel |
| Jon Hancox (Lead Auditor) Paul Bochenski (Auditor) | Peter Norman (LNG/OET/TLU Manager) Evgeny Kovalyov (Head of HSE LNG) |
| Level 1 Audit – LUN-A Platform | |
| Ramboll Environ Personnel | Sakhalin Energy Personnel |
| Andrew Snow (Lead Auditor) | Paul Eykhout (Offshore Asset Manager) Vasily Samoilov (LUN-A Offshore Installation Manager) Pavel Ulyanov, (LUN-A Head of HSE) |

The audit report(s) will be subject to peer review by Chris Halliwell (Ramboll Environ).

Standards and special conditions

The Level 1 Audits shall determine conformance with the requirements of the HSESAP and applicable environmental laws and consents.

Timing/Schedule

A detailed audit programme is attached (Appendix 1 [to this ToR]).

Methodology, Communication of Results, Report and Report Distribution

- *Audit methodology.* The Level 1 Audits shall be conducted in line with the principles of ISO 19011 (as they apply to the scope of the Level 1 Audits).
- *Close out meetings:*
 - Local close-out meetings will be held at the LUN-A Platform and LNG site respectively. At the close-out meeting the Lead Auditor will provide the auditees with a key issues summary (KIS) that will briefly document the key issues that will be raised in the subsequent audit report.
 - A final close-out meeting for the overall site visit will be undertaken on the final day where the summary findings of the Level 1 Audits 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 Level 1 Audit
 - Audit reports for the Level 1 Audits of the LUNA platform and LNG site (these will be provided as appendices)
 - 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.

END OF TOR

Appendix 1 to ToR – IEC Audit and Monitoring Visit Schedule [Revised to reflect actual schedule]

| Date/Team | Team 1 – LUN-A Audit, Snow | Team 2 – RoW / LNG Audit, Bochenski | Team 3 – LNG Audit, Meetings, Hancox |
|------------------|--|---|--|
| 6 Oct 15 | Arrive in Yuzhno-Sakhalinsk Introductions and opening presentations | | WGWAP Steering group meeting, 4-6 October Arrive in Yuzhno-Sakhalinsk |
| 7 Oct 15 | Fly to Nogliki LUN-A Audit Day 1 | Fly to Nogliki RoW Inspection Day 1 | Project updates Office meetings |
| 8 Oct 15 | LUN-A Audit Day 2 Return to Nogliki (due to bad weather) | RoW Inspection Day 2 | Office meetings |
| 9 Oct 15 | Travel to OPF Monitoring visit of OPF | RoW Inspection Day 3 Overnight train to Yuzhno | Office meetings (social) |
| 10 Oct 15 | Monitoring visit of OPF Return to Yuzhno-Sakhalinsk | Prepare for close-out | |
| 11 Oct 15 | Prepare for close-out | Prepare for close-out / RoW | |
| 12 Oct 15 | Prigorodnoye Production Complex Audit | | |
| 13 Oct 15 | Prigorodnoye Production Complex Audit | | |
| 14 Oct 13 | Close out meeting and depart | | |

APPENDIX 2

LEVEL 1 AUDIT: LUN-A PLATFORM

APPENDIX 3

LEVEL 1 AUDIT: PRIGORODNOYE PRODUCTION COMPLEX

APPENDIX 4

ROW MONITORING VISIT DESCRIPTIONS

Monitoring Report October 2015

Sakhalin-2 Phase 2 Lenders' Independent Environmental Consultant