Sakhalin-2 Phase 2
Lenders' Independent Environmental Consultant

Monitoring Report

October 2014

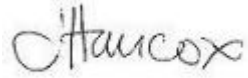
Prepared for:
Sakhalin-2 Phase 2
Project Finance Parties

Prepared by:
ENVIRON UK

Date:
February 2015

Project or Issue Number:
UK22_17081

ENVIRON

Contract No:	UK22_17081
Issue:	3
Authors:	J Hancox, K Sladkova, P Bochenski and A Fitchet
Project Manager/Director	J Hancox
(signature):	
Date:	18 February 2015

Version Control Record

Issue	Description of Status	Date	Reviewer Initials	Author Initials
1	Issued to Sakhalin Energy Comment	21 November 2014	JH	JH, KS, PB, AF
2	Issued to Sakhalin Energy with comments	19 January 2015	AG	JH, KS
3	Reissue	18 February 2015	JH, HY	JH, KS

List of Abbreviations

BIC	Business Integrity Committee
BS	Booster Station
BVS	Block Valve Station
CHPP	Cultural Heritage Protection Plan
CLO	Community Liaison Organisation
CTA	Common Terms Agreement
EA	External Affairs
ENL	Exxon Neftegas Limited
ESHIA	Environmental, Social and Health Impact Assessment
ESIA	Environmental and Social Impact Assessment
GRI	Global Reporting Initiative
GTT	Gazprom Transgas Tomsk
HR GP	Grievance Procedure HR (Human Resources)
HSESAP	Health, Safety, Environmental and Social Action Plan
IEC	Independent Environmental Consultant
IFC PS	International Finance Corporation Performance Standards
IP	Indigenous Peoples
KP	Kilometre Point (along public highway or pipeline Right of Way)
FEED	Front-End Engineering Design
FID	Final Investment Decision
FPIC	Free, Prior and Informed Consent
LNG	Liquefied Natural Gas
LP	Low Pressure (OPF Compression Project phase)
LSA	Low Specific Activity
LUN-A	Lunskoye A
MP	Medium Pressure (OPF Compression Project phase)
MSDS	Material Safety Data Sheet
NORM	Naturally Occurring Radioactive Material
ODP	Ozone Depletion Potential
OET	Oil Export Terminal
OPF	Onshore Processing Facility
OSRP	Oil Spill Response Plan
PA-A	Piltun Ashtokskoye A
PA-B	Piltun Ashtokskoye B
PCDP	Public Consultation and Disclosure Plan
PCDR	Public Consultation and Disclosure Report
PCID	Public Consultation and Information Disclosure
PIG	Pipeline Inspection Gauge
PMD	Pipeline Maintenance Depot
RF	Russian Federation
RoW	Right of Way

RPN	RosPrirodNadzor
RTN	RosTekhNadzor
Sakhalin Energy	Sakhalin Energy Investment Company Ltd
SD	Sustainable Development
SI	Social Investment
SIMDP	Sakhalin Indigenous Minorities Development Plan
SP	Social Performance
SPZ	Sanitary Protection Zone
TSS	Total Suspended Solids
WBP	Whistle Blowing Procedure
WGW	Western Gray Whale
WGWAP	Western Gray Whale Advisory Panel

Executive Summary

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

The site visit was conducted from 2nd to 10th October 2014 and focused on the following aspects (the full Terms of Reference and schedule are presented in Appendix 1):

- Social performance monitoring (Section 2):
  - Community Liaison Organisation (CLO) and the Company's information centres
  - Grievance redress mechanism
  - Sakhalin Indigenous Minorities Development Plan (SIMDP)
  - Social investment programme
  - Local employment issues
  - Social investment (SI) programme;
  - Engagement with stakeholders in Japan, etc.
- Environmental monitoring inspection visits:
  - Pipeline right of way (RoW) (Section 3)
  - Prigorodnoye Production Complex (Section 4)
- Other Project Updates (Section **Error! Reference source not found.**~~5~~), including:
  - Waste management
  - Project developments
  - Effluent discharges
  - Monitoring programmes
  - Western Gray Whale Advisory Panel (WGWAP)
  - Flaring
  - R22 elimination

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

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

- A summary of information requests where information/documentation was not available at the time of the site visit (Section 7).

- An updated Findings Log (Section 8). The Findings Log is a live log of all Findings identified from IEC site visits and reviews of Project documentation. The Findings Log has been updated following the site visit.

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. Nonetheless, a number of issues have been identified that are described in this report and these are briefly summarised by topic below. These are generally of minor significance,

although the following issues are considered to be of greater significance (see below for further details):

- Urgent issues related to Sakhalin Energy's non-hazardous waste management strategy have been identified due to the loss of access to two (Nogliki and Smirnykh) of the three currently used landfills from the 18th November 2014 and the limited remaining capacity at the third (Korsakov) landfill.
- The presence of tree saplings along the pipeline RoW continues to be a pressing issue.

Other noteworthy issues are summarised below by topic area.

Social Performance Monitoring

Similarly to the previous site visit, ENVIRON's October 2014 monitoring of Sakhalin Energy's social performance yielded positive findings. The Company is effectively carrying out a broad range of its social commitments and continues to fulfil these in a well-structured, comprehensive and transparent manner.

Only one potentially significant social-related compliance issue was identified during the October 2014 site visit. The issue relates to disturbance of residents at the Dacha community near to the LNG site caused by an unannounced fire drill held on 26th September 2014. Residents complained that the alarm was audible at the dachas and that the unannounced nature of the alarm had led to some residents being frightened. We note that the HSESAP Public Consultation and Information Disclosure (PCID) specification requires Sakhalin Energy "*to notify public concerning any project activities that may have an impact on the communities*". ENVIRON recommends that Sakhalin Energy provides more detail on the incident, and also considers all possible options of pre-warning dacha owners prior to unscheduled exercises in order to avoid undue worry. (We note that since the site visit, Sakhalin Energy has indicated that in future the Company will notify dacha owners in the event of unscheduled drills, and ENVIRON will review procedures to ensure this when available.)

A number of suggestions for improvement have also been made for consideration by the Company, the most noteworthy of which relate to the following areas:

- To issue and approve key social plans (PCDP, PCDR, SP Plan) in the beginning of the year, i.e. no later than Q1 of each year;
- In order to get the most out of the information collected by/from the Company info-centres and to ensure comparability, it is suggested to standardise the monthly reporting format, as well as to provide a refreshment training session on filling in the visitors register to the info-centres' employees;
- To address a potential problem of low level of employees' awareness of the existing grievance redress mechanisms.

Pipeline Right of Way

A number of locations along the pipeline RoW were inspected from across all sections of the onshore pipeline. Inspections focused on the status of the following aspects:

- Biological reinstatement;
- Wetlands;

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

Overall, the October 2014 site visit revealed continuous progress in reinstatement of the RoW. Particularly noted is the continuous improvement in the re-vegetation and recovery of the wetlands areas. In addition, maintenance of the pipeline RoW appears to be working successfully.

Despite the generally very favourable impression gained from the site visit, areas for improvement were nonetheless identified and the most significant of these are summarised below:

- The presence of tree saplings along the RoW continues to be a pressing issue and is of primary concern. The substantial increase in the level of effort of tree removal by Sakhalin Energy is a positive development. However, it may not be enough and a greater effort and control measures are needed in order to meet RF legal requirements and to bring this issue under control.
- The wetland between KP 230-231 has not re-vegetated well and is showing signs of dewatering. In order to remediate the identified problems at this area, we recommend a number corrective actions be implemented.
- Some of the sandy areas need further improvements. During the current monitoring visit both sandy slopes and relatively flat sandy areas that need further re-vegetation efforts were seen.

Prigorodnoye Production Complex

The Prigorodnoye production complex comprises the Liquefied Natural Gas (LNG) and Oil Export Terminal (OET) facilities. A monitoring visit was undertaken on the 7th October 2014 and included:

- Discussions over environmental management
- Review of selected environmental monitoring data
- Site inspection of the LNG production process, and the main ancillary and service areas (e.g. water and wastewater treatment, workshops, chemical storage, waste storage and back-up electricity generation).

Overall, the environmental management and control of the site was found to be good and generally in line with lender requirements and good international industry practice. Nonetheless, a small number of compliance issues and other opportunities for improvement have been identified, the most significant of which relate to:

- The need to confirm naturally occurring radioactive material (NORM) monitoring requirements and procedures at the onshore assets
- Some improvements to audit programmes and reporting, including the need for periodic system-wide environmental management system audits
- The need to ensure that the evaluation of emission monitoring data by Sakhalin Energy includes not just consideration of compliance with permit requirements but also compliance with lender requirements as defined in the HSESAP

- The need to ensure consistent use of the two different HSE reporting tools (Fountain and an internal Company 'Action Tracker') currently used within the Company in order to ensure that all HSE incidents/actions are properly understood and controlled at all levels of the Company.

Waste Management

Waste management issues are of critical importance to Sakhalin Energy in terms of the remaining capacity and standard of operation of the third party landfills used for Sakhalin Energy waste. These current issues are summarised below:

- Landfill availability and capacity.
    - At the time of the visit, Sakhalin Energy had been informed that, due to licencing issues, it would no longer be able to dispose of non-hazardous (RF Class III and IV) wastes to either the Nogliki or Smirnykh landfill after the 18th November 2014. The Company has since received a six month extension to 18th May 2015.
    - The Korsakov landfill now has very limited remaining capacity (although how long it is likely to continue operating is uncertain) and, in addition, it is uncertain whether it will be granted a licence renewal in February 2015.
- Landfill Management
    - A site visit to the Nogliki landfill found that operational practices at the facility had not improved.

Sakhalin Energy recognises the significance of the limited capacity at the existing landfills and has proposed a medium and long term strategy to resolve the issue as follows:

- Short/Medium Term Strategy
    - Conduct a tender for transporting waste off the island to the far east RF mainland
    - Options post closure of the Korsakov landfill being considered are:
        - Use of a planned new municipal landfill near Yuzhno-Sakhalinsk (although it is noted that there is no guarantee this this would be commissioned before the Korsakov landfill closes)
        - Transportation of wastes to the mainland.
- Longer Term Strategy
    - Sakhalin Energy to develop its own waste facilities (potentially including both landfills and incinerators), likely at the OPF and LNG sites linked to the OPF Compression Project and the potential Train-3 Project respectively.

In principle, ENVIRON considers that the long term aim to bring waste management under the Company's own control is reasonable, although in practical terms we note that there will be a significant lead time for development of the Company's own waste facilities. In light of the pressing nature of the waste management issues facing Sakhalin Energy, we recommend that it undertakes the following actions:

- Urgent actions:
    - Develop a contingency plan for transfer of waste to the mainland

- Medium term actions:
    - Undertake a detailed waste generation assessment for the OPF Compression project
    - Start geotechnical studies into OPF site to assess its suitability for the construction of waste facilities and the associated design implications.

Western Gray Whale Advisory Panel

The fourteenth meeting of the Western Gray Whale Advisory Panel (WGWAP-14) was held in Yuzhno-Sakhalinsk immediately prior to ENVIRON's October monitoring visit between the 29th September and 1st October 2014. Two of most significant topics discussed at WGWAP-14 were:

- The approach to the evolution of the Panel in future.

  It was agreed that a steering group would be set up to investigate and consult with all relevant stakeholders as to how the Panel may be best involved once the current Terms of Reference (ToR) for the WGWAP expires in 2016. In order to help ensure that this process takes due account of Lender requirements, ENVIRON has been invited to participate in this steering group.

- The assessment of Sakhalin Energy's proposed 4-D seismic survey in the Piltun-Astokh field (adjacent to the inshore WGW feeding ground) planned for 2015.

  It was decided that the deliberations of the Noise Task Force on potential noise impacts on WGW from this survey would be considered through a remote consultation period scheduled for the end of November 2014. In addition, Sakhalin Energy needs to develop an Environmental and Social Impacts Assessment (ESIA) for the 4-D Seismic Survey in line with lender requirements. We understand that the ESIA is currently being developed and will be provided to ENVIRON and lenders for review in due course.

Effluent Discharges

Two issues are identified in relation to effluent discharges from Project facilities:

- Discharges from sewage treatment plant (STP) on the PA-B and LUN-A platforms.

  Discharges from these STP do not meet permit requirements for a number of parameters, principally phenols and ammonia. Sakhalin Energy has indicated that upgrading/replacing of the STP to resolve this issue is not cost-effective. While we do consider the environmental impacts of these elevated discharges to be significant, this nonetheless represents a technical breach of the HSESAP (which requires the Company to meet local regulatory requirements). We therefore recommend that Sakhalin Energy provides a written justification of why replacement of the STP is not cost-effective and requests a formal derogation of these discharge standards from Lenders.

- Discharge of treated effluent from land-based facilities to ground/soakaways.

  Due to changes in regulatory arrangements in the Russian Federation, Sakhalin Energy does not have, and apparently has no mechanism to obtain, valid permits for its ongoing discharge of treated water to ground/soakaways at its onshore facilities. This issue has been previously raised by ENVIRON, and we recommend that Lenders seek the opinion of their legal advisors on this matter.

Project Developments

Updates have been provided by Sakhalin Energy on the following Project developments:

- Sakhalin-3 Tie-In. This project is now complete, although we note that the first batch of oil from Sakhalin-3 has yet to be received into Sakhalin Energy's oil pipeline. We also note that some reinstatement works are still to be performed at the tie-in site.
- LNG Train-3. Sakhalin Energy has confirmed that it is actively investigating development options for a third LNG train at the Prigorodnoye production complex. The potential plans are in the early stages of development and, as such, there are no immediate environmental and social issues to be reviewed.
- OPF Compression Project. ENVIRON has previously provided review comments to Sakhalin Energy on the draft ESIA that was developed for the OPF Compression project in 2013. The review comments were discussed with Sakhalin Energy during this site visit, and we understand that the ESIA will shortly be revised to address these comments. ENVIRON will review the revised ESIA on behalf of lenders when it is available.

Contents

Appendices

1 Introduction

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

The site visit was conducted from 2nd to 10th October 2014 and focused on the following aspects (the full Terms of Reference and schedule are presented in Appendix 1):

- Social performance monitoring (Section 2):
  - Community Liaison Organisation (CLO) and the Company's information centres
  - Grievance redress mechanism
  - Sakhalin Indigenous Minorities Development Plan (SIMDP)
  - Social investment programme
  - Local employment issues
  - Social investment (SI) programme;
  - Engagement with stakeholders in Japan, etc.
- Environmental monitoring inspection visits:
  - Pipeline right of way (RoW) (Section 3)
  - Prigorodnoye Production Complex (Section 4)
- Other Project Updates (Section **Error! Reference source not found.**5), including:
  - Waste management
  - Project developments
  - Effluent discharges
  - Monitoring programmes
  - Western Gray Whale Advisory Panel (WGWAP)
  - Flaring
  - R22 elimination

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

- Suggestions (Section 6). A number of suggestions are made following the site visit that do not relate to specific areas of non-compliance (and hence are not included in the Findings Log – see below), but which are made for the benefit of either Sakhalin Energy and/or lenders to either improve performance or, in some cases, avoid future areas of non-compliance.
- A summary of information requests where information/documentation was not available at the time of the site visit (Section 7).
- An updated Findings Log (Section 8). The Findings Log is a live log of all Findings identified from IEC site visits and reviews of Project documentation. The Findings Log has been updated following the site visit.

2 Social Performance Monitoring

2.1 Objectives of the IEC Social Performance Monitoring

ENVIRON monitors of Sakhalin Energy's social performance on an annual basis to verify fulfilment of the HSESAP commitments.

The following aspects were covered during ENVIRON's annual monitoring visit in October 2014:

- Revision of the HSESAP;
- Progress with implementation of key social documents/plans;
- Ongoing community engagement and liaison (including a network of information centres, regular public meetings, public consultations on new Company's activities, engagement with 'Stroitel' dacha cooperative, etc.);
- Social investment (SI) programme update;
- Update on engagement with stakeholders in Japan;
- Engagement with Indigenous People and implementation of the SIMDP;
- Grievance redress mechanisms (both external and internal);
- Local employment issues.

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

2.2 General Update and Observations

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 2009-2012 period. All of these reports are publicly available on Sakhalin Energy's website.[1] Similarly to the previous monitoring visit, the latest ENVIRON visit conducted in October 2014 confirms that all systems and tools that ensure the Company's social performance continue to function effectively under the close supervision of the dedicated Social Performance (SP) and External Affairs (EA) teams. Implementation of all social plans is ongoing in line with the planned schedule. The Company is generally in compliance with social commitments outlined in the HSESAP.

The current report focuses on the following:

- issues that have not been covered in the previous IEC reports;
- aspects related to recent developments; and
- recommendations for improvement.

It should be noted that, due to the well-established and effective system and procedures for managing social performance, all findings from the monitoring visit are considered to be suggestions for improvement rather than non-compliances. The only exception to this

[1] 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]

relates to a recent dacha owners' complaint regarding an unannounced fire drill at the LNG site (see section "Engagement with Stroitel Dacha Cooperative" below).

2.3 Revision of the HSESAP Social Management Specifications

Some minor changes in the actual procedures implemented by the Company have occurred since the last update (Revision 4) of the HSESAP was agreed between Sakhalin Energy and Lenders. This has resulted in some minor inconsistencies between current practices and the text of the HSESAP social specifications. ENVIRON suggests that the HSESAP is modified to remove such inconsistencies and provided to Lenders/ENVIRON for agreement. The sections of the HSESAP that require modification may be identified during an 'Internal social compliance review against HSESAP social requirements' which is to take place in Q4 2014.

The new HSESAP revision has not yet been uploaded to the Company's website. At the same time, Revision 3 is available there together with several tables reflecting changes between Revisions 2 and 3. In order to make the website more user-friendly, ENVIRON suggests to upload Revision 4 of the HSESAP to the website and to archive old documents.

2.4 Progress with Implementation of Key Social Documents/Plans

Earlier in 2014, the Company developed its Public Consultation and Disclosure Plan (PCDP) for 2014 and finalised the Public Consultation and Disclosure Report (PCDR) for the preceding year. Both documents are available on Sakhalin Energy's website and at the Company's Information Centres, and the activities planned within the PCDP have been/are being implemented as per the planned schedule.

The Company also routinely implements various social activities outlined in the Social Performance Plan (SP Plan), which was approved in June 2014. The only outstanding issue at the at the time of the October 2014 site visit is a public opinion survey originally planned for implementation for Q3 2014. The delay was reportedly caused by a longer than expected tendering process for selection of a new service provider. However, the contractor for these services is confirmed now and Sakhalin Energy is planning to have the survey conducted later in 2014.

Another yearly initiative is the Company's Sustainable Development (SD) or Global Reporting Initiative (GRI) Report as per the GRI Reporting Framework, which has also been developed for 2014. This included two rounds of stakeholder dialogue that typically accompany the preparation of this annual report. As part of the reports' preparations the Company commits to hold regular consultations with stakeholders so they can share their opinions on the Company's activity and make recommendations on further development of the Company's responsibility in production, environment and social areas. The work on the 2014 Sustainable Development Report is ongoing as planned.

A new version of the Cultural Heritage Protection Plan (CHPP) has been developed and approved in September 2014. Following previous recommendations made by ENVIRON, the new version of the CHPP includes a revised monitoring programme (i.e. the objects that require less frequent or no further monitoring due to their remote locations and distance from the Project's operating assets were identified and excluded from scope, continuing monitoring of the features in close proximity of the roads, the pipeline and other facilities that may represent a risk is still envisaged, etc.).

Although ENVIRON recognises the efforts made by Sakhalin Energy in relation to timely development and regular updates of the social documents, delays occurred in the timely

development of some key annual social plans (PCDP, PCDR, SP Plan) in 2014. We suggest that in future these annual plans be issued at the beginning of the year, i.e. no later than the end of Q1 of each year.

2.5 Community Engagement and Liaison

2.5.1 Information Centres

The 23 Information Centres (Info-Centres) established by the Company across Sakhalin Island remain operational and constitute a live communication link with the external public. Various printed materials are mailed to the Centres at least once a month. The October 2014 monitoring visit (which included visits to 5 info-centres[2]) confirmed that all necessary documents are available there, including the minimally required package, i.e.:

- PCDP 2014;
- PCDR 2013; and
- 2013 Sustainable Development Report.

However, it was observed that information holders located in the libraries are 'overloaded' with papers and often contain old versions of Project materials (e.g., 2012 PCDP). This makes the process of looking for the latest versions of a particular document difficult, and also prevents the most recent materials from being easily noticeable to the public (see Photo 2.1).

Photo 2.1: Information holder in Nogliki Info-Centre

[2] Nogliki, Onor, Poronaysk, Makarov, Vzmorye

In order to optimise the organisation of documents in the holders, ENVIRON suggests that only up-to-date versions of the materials are kept in the information holders with out-of-date materials being archived.

In addition, some of the most recent editions of the "Vesti" newspaper were not available in a number of visited info-centres. For instance, the latest editions available in Makarov and Onor centres were dated June 2014. It is noted that the "Vesti" newspaper is not included in the minimally required document package to be placed in the info-centres, however, given that it is in demand with the local population, ENVIRON suggests that Sakhalin Energy considers actions to ensure that the most recent editions are made available in the libraries.

All visited info-centres provide Internet access to the public. All the consultants (librarians) in the info-centres visited were found to be well aware of their duties. During the visits, the consultants provided very positive feedback on the variety of materials supplied by the Company and the ready access to the Company's Community Liaison Organisation (CLO) staff. They all reported having sufficient information on all aspects of Company's activities that may be of interest to local people.

The total number of visitors to Sakhalin Energy's info-centres during the 2014 reporting period was 2,535 people (Jan–Sept 2014).

The following items were reportedly of particular interest to visitors:

- The Company's social programmes;
- Recruitment and employment;
- "Vesti" corporate newspaper;
- Sakhalin Energy website.

Only one complaint related to the Project was received from the public via the visited info-centres in 2014 (received via Gastello centre as reported by Poronaysk centre). It was redirected to the Company and resolved afterwards (see the 'Grievance Redress Mechanisms' section below). All the interviewed consultants demonstrated good knowledge of the Company's community grievance procedure and were able to provide appropriate advice and assistance with completing the grievance form and communicating a complaint to the Company's CLO. The Public Grievance leaflet and relevant contact details are clearly displayed in the info-centres.

Sakhalin Energy's CLO reports that community interest in the info-centres is gradually declining. This is most likely a result of decreasing public interest now that the Project has entered the operations phase. Nevertheless, the info-centres continue to be advertised through a variety of means, including printed media, public websites, posters and information boards.

The Company has tracked the number of visitors to all of the info-centres since they opened in 2008. The librarians still make records on each visitor in a dedicated register structured, as follows (see also Photo 2.2):

- Visit/query reference number;
- Date of visit;
- Social status of a visitor;
- Brief description of the query;

- Actions taken;
- Comments.

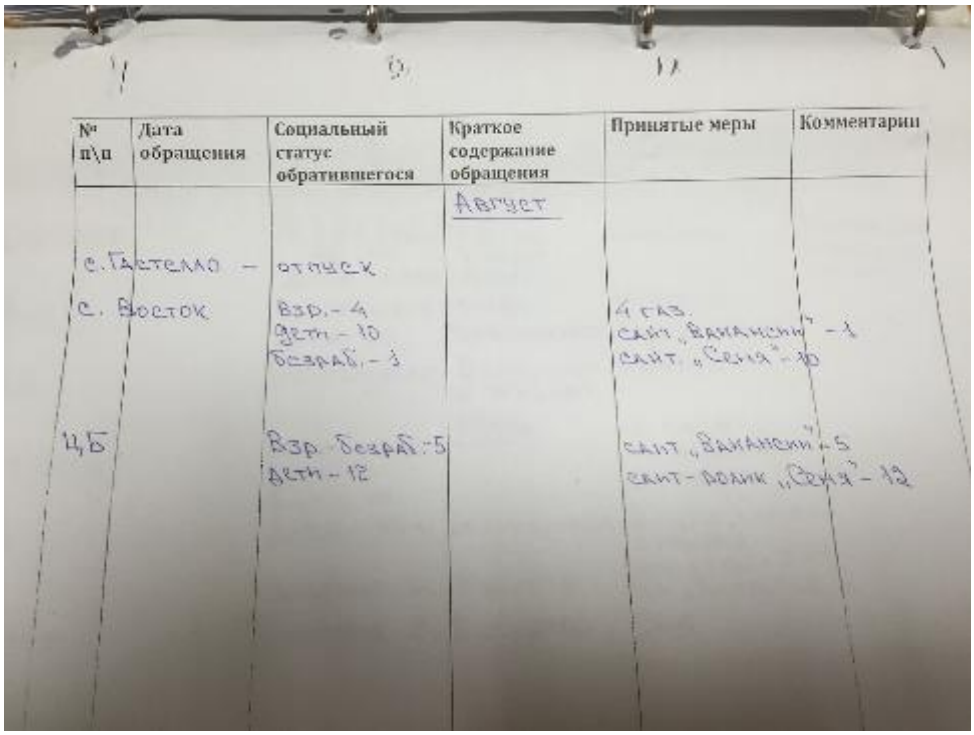


Photo 2.2: The Visitor Register (example)

At the end of each month the info-centre employees forward aggregated data to the Company.

It was observed during the site visits that both the monthly reporting format and the way in which the visitor register is completed, differ between the different info-centres. In order to get the most out of the information collected by/from the Company info-centres and to ensure comparability, ENVIRON suggests that the monthly reporting format is standardised and also that refresher training is provided to the info-centres' employees on how the visitors register should be completed. ENVRION suggests that this is included as part of forthcoming group training.

2.5.2 Annual Public Meetings

Annual public meetings are an effective tool in maintaining contact with the communities near the Project's main operating assets. In May 2014, meetings were held in eight communities on the Island, with a total turnout of 82 people.

Similar to info-centres, public interest in attending Project meetings is decreasing. However, public meetings continue to be announced through newspapers, website, posters and letters to key stakeholders. The consultants at the info-centre also notify local residents of the Project's forthcoming public meetings. Exit questionnaires continue to be administered after each public meeting to gauge participants' attitudes towards the Sakhalin-2 Project, their

satisfaction with the presented materials, and any need for the provision of additional information.

Questions that were of particular interest among the attendees at the meetings on 2014 included employment opportunities and level of salary paid by the Company, plans on gas supply to Tymovskoye, details on the 'Book as a Gift' project, and availability of individual entrepreneur support programmes.

2.5.3 Public Consultations

The first round of statutory public consultations in relation to the OPF Compression Project was undertaken in 2012. The Environmental, Social and Health Impact Assessment (ESHIA) process for the OPF Compression Project is still on-going. The second round of public consultations is scheduled for the very end of 2014. ENVIRON suggests that Sakhalin Energy should consider the State New Year holidays when planning the second round of consultations on the Project. If the public meeting takes place during the New Year holidays, we suggest that additional informational sessions are conducted after the holiday period, at least in the closest residential area to the Project site (i.e. Nysh).

According to the PCDP 2014, consultations with the stakeholders in relation to the Tymovsk gas delivery point (GDP) construction project were also planned for 2014. However, the Company has reported that this Project has now been postponed indefinitely.

2.5.4 Engagement with 'Stroitel' Dacha Cooperative

In 2014 Sakhalin Energy has continued its engagement with the 'Stroitel' Dacha cooperative located in the vicinity of the Prigorodnoye Production Complex. A detailed description of the previous history of engagement is provided in the IEC Monitoring Visit Report (2012)[3], as well as in a standalone briefing note that is regularly updated by the Company and may be provided by the Company to any interested party upon request.

A recent issue of concern for the Dacha cooperative identified during the October 2014 monitoring visit was the lack of advance information on a fire response drill held on 26th September 2014, which caused disturbance and concern within the dacha community. This can be considered as non-compliance with the HSESAP Public Consultation and Information Disclosure (PCID) specification, which requires the Company "*to notify public concerning any project activities that may have an impact on the communities*".

During discussions of this issue, Sakhalin Energy argued that such testing takes place very rarely (1-2 times per half a year) and the signal does not sound long. Moreover, the Company notes that the decision to conduct such unplanned drills is made by a senior safety manager a very short period of time (e.g. 0.5-1 hour) before the testing itself, thus, it is physically impossible to notify the dacha community.

While recognising the need to limit prior information on the unplanned events, ENVIRON notes that the subjects of the unplanned drills are site employees and not the dacha communities. Therefore, given the potential distress that the sounding of the site alarms may have on vulnerable members of the dacha community in particular, we recommend that Sakhalin Energy considers possible options to pre-warn dacha owners prior to such

[3] Publicly available on http://www.sakhalinenergy.ru/media/30b3121b-96f4-42e2-98f4-3427369e5b39.pdf, section 2.3.5 "Engagement with the 'Stroitel' Dacha Community in Prigorodnoye", pp. 15-31

unscheduled exercises. Since the site visit, Sakhalin Energy has indicated that in future the company will notify dacha owners in event of unscheduled drills, and ENVIRON will review procedures to ensure this when available.

Routine engagement with the dacha community in 2014 included the following:

- An annual meeting organised as part of the Company's routine monitoring of social impact (conducted in June 2014);
- The on-going monitoring of air quality and noise levels at the boundary with the dachas as part of the "Quality of Life" monitoring conducted from May till October 2014 (this is in addition to the mandatory industrial monitoring at various other locations). Dacha residents were invited to be present during sample collection, but none attended. The results of the monitoring did not identify any exceedances of permitted levels and the results were communicated directly to the Head of the Dacha cooperative.
- An invitation to participate in wider stakeholder dialogue conducted in February 2014 during preparation of the Company's Sustainable Development (GRI) Report. Dacha owners declined to participate in the event.
- Regular notifications of the planned maintenance works at the Prigorodnoye Production Complex through the Korsakov newspaper "Voskhod", as well as by mailing the Head of Dacha cooperative.

The 2014 IEC monitoring visit confirms that the dacha situation remains largely unchanged from previous site visits. As described in previous monitoring reports, the tailored, selective engagement with this stakeholder group is no longer considered necessary. However, we suggest that Sakhalin Energy continues using a variety of well-established mechanisms and instruments of engagement in further interactions with the Dacha cooperative. These mechanisms include:

- Social impact monitoring (annual);
- Annual public meeting in Korsakov;
- Biannual stakeholder dialogues as part of the Sustainable Development Report preparation;
- Air and noise monitoring (with the results of the monitoring communicated directly to the Head of the Dacha cooperative);
- Regular notifications of the planned maintenance works at the Prigorodnoye Production Complex;
- Public grievance procedure;
- Bus tours to the Prigorodnoye Production Complex organised annually for Korsakov residents; and
- Ad hoc telephone engagement.

These means of engagement are considered to be sufficient for maintaining the overall link with this stakeholder.

2.6 Social Investment (SI) Programme Update

Sakhalin Energy has been implementing its Social Investment (SI) Programme in line with the Company's Sustainable Development Policy. Over the years, the SI Programme has evolved into a constructive model of community investment with a strong partnership foundation and a robust sustainability agenda. Successful initiatives that have been devised under the SI framework include:

- Safety of Children;
- Road Safety Council;
- Sakhalin Salmon;
- Sakhalin Indigenous Minorities Development Plan (SIMDP);
- Korsakov Sustainable Development Partnership Council;
- Charity Initiatives and Volunteering Development Support Programme for Sakhalin Energy's employees. The "Hurry Up for Good Deeds" programme collected around 4 million rubles through donations made by employees in 2013-2014. Over 40 % of employees participated in fundraising campaigns. Major events so far in 2014 include:
    - Charity fundraising campaigns towards equipment for the Sakhalin Oblast Children's Hospital and the Oblast rehabilitation centre for disabled children;
    - Fundraising campaigns devoted to Oil & Gas Workers Day and 'New Year Miracles' (December 2013);
    - Seven charitable employees initiatives.
- Fund of Social Initiatives 'Energy'. Sakhalin Energy has supported 411 projects over the period 2003-2014, 25 of these during 2014.

Other significant events that took place in 2014 include:

- Veterans project. Events with veterans and young people in 23 communities (in information centres and in Yuzhno-Sakhalinsk);
- Five centuries of Russian Art exhibition (March-May 2014). The exhibition gathered around 12,000 visitors, 258 guided excursion were held by 18 guides – volunteers (including 9 Sakhalin Energy employees), more than 100 mass media articles published.

During the reporting period the Company won several awards for its social investments and Corporate Social Responsibility activities.

2.7 Engagement with Stakeholders in Japan

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

- 1st November 2013 – visit of Hokkaido Government and Hokkaido Fisheries Environmental Center to Sakhalin;
- 14th February 2014 – meeting with Hokkaido Government and Hokkaido Fisheries Environmental Center;
- 16th February 2014 – 29th Mombetsu Oil in Ice Symposium;

- 17th February 2014 – Oil spill workshop in Mombetsu under the International Symposium;
- 29th May 2014 – meeting with Japan Coast Guard branch in Tokyo.

2.8 SIMDP Update

Sakhalin Energy continues to implement the Sakhalin Indigenous Minorities Development Plan (SIMDP-2), which was extensively covered in previous IEC Site Visit Reports.

During the reporting period of 2013-2014, the following engagement methods were used:

- Individual consultations;
- Trainings;
- Open hours;
- 14 public meetings held (12 Indigenous Peoples (IP) communities covered, 206 participants attended);
- Regular updates through information bulletins in all areas of the IP residence on the Island;
- Sessions of SIMDP bodies to select projects to be financed;
- Participation of the IP representatives in the public dialogues during preparation of Sakhalin Energy's Sustainable Development Reports for 2013 and 2014;
- Operation of the dedicated website[4];
- Continued operation of the dedicated SIMDP Grievance Procedure.

The SIMDP continues to be the subject of independent external monitoring. The most recent external monitoring visit took place in June 2014. The monitoring covered 14 IP communities and 65 individual meetings were held, and no non-compliances identified. The annual internal monitoring that is carried out by Sakhalin Energy's IP Unit is planned for November 2014.

ENVIRON notes the ready accessibility and availability of the dedicated IP CLO that covers the traditional areas of the Indigenous Peoples residence. Overall, we consider that the SIMDP-2 serves as an exemplary model for similar projects in regions with Indigenous Peoples that require demonstration of the Free, Prior and Informed Consent (FPIC) concept.

The following IP-related activities and events implemented by/with participation of Sakhalin Energy in 2014 are also very notable:

- Publication and presentation of Vladimir Sangi's Nivkh Epic Book (Nogliki, Moscow);
- Participation in the UN Permanent Forum on Indigenous Issues 2014. Sakhalin Energy was invited to present its experience at several events including those arranged by RF Ministry of Regional Development and UN Global Compact; highly positive feedback received.
- World Petroleum Congress (WPC). The WPC awarded the SIMDP as one the top three projects selected from about 100 applications. The WPC invited Sakhalin

[4] www.simdp.ru

Energy to present the SIMDP as one of the top 10 projects included in the work of Social Responsibility Global Village.

2.9 Grievance Redress Mechanisms

The October 2014 monitoring visit included review of both the Company's Community Grievance Procedure and its internal grievance procedures (i.e. "*Whistle Blowing Procedure*" and *"Grievance Procedure HR (Human Resources)"* for dealing with queries and complaints of employees"*).*

Sakhalin Energy continues to successfully operate its well-established Community Grievance Procedure (see the previous IEC Site Visit reports for further details on the procedure). The Company reports that 13 grievances in total have been lodged in 2014 as of September 2014. Ten of these have been finalised within the period stipulated by Community Grievance Procedure (6 grievances have been resolved with signing statements of satisfaction, 4 - closed by Business Integrity Committee (BIC) decision). The other 3 grievances are still ongoing, although we consider that the process of review is in compliance with the Grievance Procedure.

The lodged grievances are categorised, as follows:

- **Five grievances - Impact on Community**. Four of the grievances were related to a section of road between Korsakov and Prigorodnoye (road condition and the funds allocated for the road upgrade during the construction period). Sakhalin Energy has confirmed it is not liable for any upgrade and/or maintenance of this road section and that the Company is not entitled to disclose any information on funds. One grievance was related to the deterioration of a well located near a local road in the Poronaysk district (this grievance was mentioned above in the section devoted to info-centres work). As reported in the grievance, deterioration had been presumably caused by the Project activities. The survey made by the Company proved there is no connection of the issue with Sakhalin Energy's activities. The well is located lower than the road surface, which reportedly results in spring water run into the well.
- **Four grievances - Recruitment and Employment.** One grievance - workers of a contractor complained about not being provided with days-off. The action party has demonstrated the records (signed by the employees) confirming all the days-off were provided in accordance with labour legislation. One grievance was related to unlawful dismissal. The Company prepared a response to the grievance. However, the complainant withdrew the grievance soon after lodging. One grievance - former employee of a contractor anticipated that during the contract transfer to another company, he would be hired by a new contractor. However, after the security check of the candidate's background, he was rejected. After the company's explanation he confirmed satisfaction with grievance resolution. One grievance regarding recruitment (the candidate was refused a position in the Company). The Company has demonstrated that all its standards and procedures were met during the candidates' selection/assessment process.
- **Other categories** include:

  One grievance - **Code of Conduct**: anonymous complaint of the contractor employee about rude behaviour of the manager. The complainant has not

provided any feedback on the company's enquiries for additional information. The grievance has been closed by BIC decision.

One grievance - **Financing of the IP related projects**. After the investigation the issue proved to be unrelated to the Company's activities and engagement with IPs.

Two grievances - **SIMDP implementation** (discontent with funds distribution). Both grievances were closed with complainant satisfaction after the explanations had been provided.

Sakhalin Energy continues to raise awareness of its Grievance Procedure via the following means:

- Public awareness campaign;
- Induction and refresher training of the grievance resolution process for Company staff, including specific training for responsible Action Parties;
- Training on the HSESAP Social commitments and the Human Rights Policy for contractors / sub-contractors, including office staff and in-field and security personnel that may have a direct encounter with the external communities;
- Detailed information published in Sakhalin district newspapers;
- Public leaflets with contact information of Sakhalin Energy's CLOs and Info-Centres where a complaint can be submitted;
- Information about the Grievance Procedure included in the presentations during annual public meetings with the communities;
- Training provided to librarians / consultants of the Info-Centres, with the collection of their feedback on the Procedure.

The Community Grievance Procedure allows lodging of anonymous and/or confidential grievances.

Overall, ENVIRON concludes that the Company's Public Community Grievance Procedure remains an example of good practice that serves as a benchmark in the oil and gas industry.

There are also two other grievance procedures that can be used by the Company's employees[5], namely:

- "Whistle Blowing Procedure" (WBP);
- "Procedure for dealing with queries and complaints of employees" (HR GP).

The WBP is a company-wide procedure and, theoretically, anybody is able to utilise it – the link is publicly available on the corporate website[6]. The WBP is primarily aimed at addressing the grievances associated with Sakhalin Energy's business principles breach. Any grievance related to potential impact of Sakhalin Energy's business practices or developments on the community, the environment or anybody's quality of life may be lodged through the WBP. Examples of grievances may include:

[5] Contractors' employees may use either community grievance procedure or the WBP.

[6] http://www.sakhalinenergy.com/en/company/our_principles.wbp

- negative impacts on a person or community, e.g. financial loss, physical harm, nuisance from traffic or dust;
- dangers to health and safety or the environment;
- failure to comply with standards or legal obligations;
- harassment of any nature;
- criminal activity;
- improper conduct or unethical behaviour;
- financial malpractice or impropriety or fraud;
- attempts to conceal any of these.

The WBP allows lodging of anonymous and/or confidential grievances.

Other ways of employees' notification on the WBP, apart from the website, are, as follows:

- Posters placed in Company's premises;
- Info shared during each employee's induction;
- Info distributed through Staff Engagement Sessions (held 1-2 times a year).

The "Grievance Procedure HR (Human Resources)" (HR GP) is applicable only to Company staff and their potential HR-related grievances. According to the internal policies and practices, an employee should first approach his/her line manager should an issue arise and, if the problem remains unsolved, use the HR GP afterwards. A stipulated time frame for addressing HR grievances is no more than 2-months period with an acknowledgement sent to an employee within 10 days of receiving his/her grievance. The HR GP shouldn't be used for anonymous and/or confidential grievances.

The link to the procedure is given on the Company's Intranet HR page. It is also included in the list of local normative acts that is signed by each employee upon his/her recruitment and once per year afterwards. The list of normative acts is also printed on posters and placed in the Company's facilities.

Overall, ENVIRON considers the existing grievance procedures sufficient in terms of addressing workplace concerns. However, the October 2014 site visit indicated an apparent low level of staff awareness of these mechanisms. None of four employees interviewed during the site visit were aware of either procedure. All of them said that, in the case of any problem, they would approach their line manager. However, when asked about how they could lodge anonymous grievances or grievances which can't be resolved with their line manager, none of the interviewees could provide a clear answer.

Reportedly, the level of employees' awareness about the WBP is assessed through an annual Awareness Survey. As part of this exercise, around 70-80 randomly selected employees are asked if they know about "*the whistleblowing hotline which can be used for raising concerns (including anonymous concerns) of the business principles breach, cases of misconduct or abuse*".

In order to increase the informative value of the Awareness Survey scheduled for the end of 2014, as well as to address a potential problem of low level of employee awareness of the existing grievance redress mechanisms, ENVIRON suggests the following:

- Reformulate the Awareness Survey question and make it 'open-ended';

- Add questions on the HR GP to the survey questionnaire;
- Consider refresher activities if the Awareness Survey demonstrates a low level of awareness.

2.10 Local Employment Issues

As per the HSESAP "Russian Content and Employment" specification, Sakhalin Energy is committed "*to achieve Russian Content of 70% over the life of the project by identification of potential Russian enterprises for the provision of goods and services, as well as by preferential hire of workers from local communities given that all other factors are equal".* Moreover, in the case of activities associated with Project expansion, reconstruction, retrofit and upgrade, the Company shall "*require its key contractors to implement a plan on maximising Russian Content, and sourcing supplies locally"*, at the same time avoiding creation of resource shortage in the local communities.

These intentions are notable and ENVIRON acknowledges that, even despite a current lack of low and semi qualified positions within the Company, preference in recruitment is always given to a local candidate (under otherwise equal circumstances). Sakhalin Energy also encourages and supports local people in their desire to be employed through its info-centres, (the librarians assist local residents in searching employment information at the corporate web-site and in filling in job applications).

However, the October 2014 monitoring visit found that unemployment of unskilled people remains one of the main social problems in the region. Questions on employment opportunities are still frequently asked through both the information centres and during annual public meetings. ENVIRON recognises that there are currently limited numbers of unskilled positions available within the Company. However, those positions are sometimes available within Sakhalin Energy's contractors who, according to PRSRMPs[7] and the RF labour legislation requirements, are supposed to advertise them through job centres.

In view of the above, ENVIRON suggests that Sakhalin Energy considers ways of encouraging its contractors to recruit locally, as well as to provide local people visiting the Company's info-centres with job-related questions with advice on checking job centres for availability of additional employment opportunities.

[7] Public Relations and Social Responsibility Management Plan

3 Pipeline Right of Way Monitoring

3.1 Introduction

The October 2014 site visit to the Right of Way (RoW) concentrated mostly on inspecting and evaluating the reinstatement conditions of a variety of wetlands along the pipelines route. In addition, visits were made to a small number of selected sites of river crossings, repair works and general RoW.

The full list of locations visited, together with summary descriptions of the observations from each location, is presented in Appendix 2.

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

As in previous visits, observations during the current monitoring visit indicated a continuous, and in some locations, significant improvement in vegetation growth. Most areas that were inspected exhibited good, sometimes dense, vegetation growth and ground cover.

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

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

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

3.2.2 Tree growth

Tree growth on the RoW was first identified as an important issue during the October 2011 monitoring visit. Following that visit, Sakhalin Energy has implemented a programme to fell trees/saplings on the RoW. However, observations during the following visit (September 2012) indicated that the tree/sapling cover had become even more widespread and dense, and that the trees were taller and with thicker trunks than in October 2011. The issue was raised again by ENVIRON at the conclusion of the 2012 and 2013 visits.

Since the last visit in September/October of 2013, Sakhalin Energy has significantly increased its efforts of tree removal. Two types of tree removal methods were noted during the October 2104 visit:

- Manual cutting with hand held saw of some type (observed from a distance during cutting activity)
- Mechanical cutting using tracked vehicle (Not observed during cutting process).

The results of manual cutting methods were observed at many sites. The tree/sapling was observed to have been cut at the main trunk about 10 to 20 cm above ground level. This method leaves the roots untouched and may not be effective for long term control since it was observed in several cases that side branches are already growing below the cut and producing leaves.

The mechanical method used a tracked vehicle that cuts/rips the trees/saplings at about 30 cm above ground. This method also leaves the root system untouched and can also result in heavy soil disturbance and hence loss of other (non-tree) vegetation (see the 2013 Site Visit Report). It is now a full year since this mechanical method was first implemented, and casual observation during the October 2014 visit indicates that vegetation is re-growing, and that this already includes regrowth of the tree saplings (Photos 3.1 and 3.2). The area will need to be cut again in one to two years' time and hence this method provides a relative short-term solution before having to be repeated.

Photo 3.1: Area of regeneration of saplings near KP 63. See photo below how the area looked in 2013 after the mechanical method was used for the tree removal

Photo 3.2: Tree growth on the RoW north of the Djimdan River

Sakhalin Energy reports that the tree removal effort was quadrupled from approximately 80 hectares in 2013 to over 300 hectares in 2014. The results of this were observed during the site visit, where many locations exhibited the results of cutting. This increase in the level of effort is starting to show results on the ground, but further increase is required to keep up with the growth and to eventually actually reduce it to more manageable levels.

We recommend that Sakhalin Energy continues to re-evaluate and re-consider the methods that are already in use for long-term effectiveness and impact on existing reinstatement. Methods of actual tree eradications should also be considered along with the advice of specialists in this field.

3.2.3 Steep Slopes

Only a limited number of the very steep slopes present on the RoW were observed during the October 2014 site visit, namely the slopes in the vicinity of KP 47 and KP 55 south of the OPF, and the slope south of the Pugachevo River crossing at KP 422.5.

The slopes between KP 46 and KP 47.5 (Photo 3.4) and at the Pugachevo River crossing at KP 422.5 (Photo 3.5) show good vegetation cover and good slope protection. However, the slope between KP 55.5 and KP 56 also has slope breakers but is poorly vegetated and shows signs of erosion (Photo 3.3).

In general, the issue of adequate vegetation cover on steep slopes is on-going and in some locations results in erosion and sedimentation into the river. We recommend that Sakhalin Energy continues to maintain erosion and drainage control in order to minimise sedimentation impacts on the receiving rivers.

Given the difficulties encountered with the re-vegetation of some of these slopes, we recommended that Sakhalin Energy considers different techniques to ensure successful re-vegetation.

Photo 3.3: Steep slope at KP 55 showing poor vegetation cover

Photo 3.4: Steep slope at KP 47 showing good vegetation cover

Photo 3.5: Steep slope at KP 422.5 showing good vegetation cover on steep slope

3.2.4 Sandy Slopes

Following the construction period, the reinstatement of sandy slopes along the RoW proved to be a difficult and time consuming task. This was mostly due to the lack of top soil and the easily erodible nature of slopes with sandy lithology. A significant improvement in the vegetation cover of these slopes was first noted during ENVIRON's October 2012 Visit and this was attributed to an increase in slope stabilisation efforts and additional seeding.

These observations were confirmed once again during the previous (2013) and current (October 2014) visits, particularly in the historically difficult sandy region of KP 120 to 140 as shown in Photo 3.6 below.

However, a new location that was visited during the current visit at KP 55.5 (discussed in the previous section) indicated that there are still locations of sandy slopes that need require additional efforts.

Photo 3.6: Sandy slope at KP 128 showing good vegetation cover beyond the first slope breaker

3.3 Wetlands

3.3.1 Overview

Wetlands along the RoW were a particular focus of the October 2014 monitoring visit as that group of habitats had been identified in previous visits as being slow to recover following installation of the pipeline. However, the October 2014 site visit found a large improvement on previous years. There are still some locations requiring further natural regeneration and monitoring, but many areas that were previously slow to re-vegetate are now being re-colonised by wetland vegetation (e.g. see KP144 in Photo 3.7).

Photo 3.7: View of wetland around KP 144

3.3.2 Wetlands Recovering Well

An example of a wetland that was previously of particular concern is shown in Photos 3.8 to 3.10 below from the Dagi River Valley. The photographs provide a comparative view of the state of recovery of this wetland area in September 2012 (Photo 3.8), October 2013 (Photo 3.9) and October 2014 (Photo 3.10). It is clear from comparison of the photographs that very little improvement took place in the year between September 2012 and October 2013, but by this year's visit in October 2014, considerable re-vegetation had occurred on previously bare areas.

Photo 3.8: View of the Dagi Valley September 2012

Photo 3.9: View of the Dagi Valley October 2013

Photo 3.10: View of the Dagi Valley, October 2014

We consider that the significant improvements in re-vegetation of many of the wetlands found in 2014 compared to previous years is likely to be related to a number of factors.

- In some areas, materials (e.g. soils and stone) imported during the construction phase had not been adequately removed. This includes soils used to create the berm over the pipeline and also the 'running track' road used for machinery/vehicular access on the RoW during construction. In the areas where this material had not been removed, it has taken vegetation longer to re-establish as it has had to overcome less favourable conditions;
- Species such as Labrador tea Ledum palustre, Bog bilberry Vaccinium uligonosum and leatherleaf Chamaeedaphne calyculata that dominate the shrub layer of many of the wetlands on Sakhalin take far longer to colonise the disturbed ground than grass species and other pioneer species;
- Similarly, the Sphagnum bog mosses that are the basis of most of the wetlands have taken time to re-colonise the RoW as in many places the sphagnum within the replaced peat did not regenerate very well, largely as a result of the peat not having been turved and carefully replaced at the time of construction; and
- Sakhalin Energy staff reported that it has been a warm summer with generally good weather. It maybe that this has provided the good growing season conditions that many of the plants required to re-establish on the RoW.

3.3.3 Areas Requiring Intervention

The wetland between KP 230-231 has not re-vegetated well, and where there is vegetation it includes examples of pioneer species rather than the wetland species of the surrounding habitat.

Unlike the other wetlands visited, this wetland is showing signs of dewatering, both on the RoW and also in the wider area to the east of the RoW. The cause of the dewatering appears to be two-fold. The retained access track to the block valve station appears to be acting as a barrier to hydrological connectivity between the western and eastern sections of wetland. Secondly, a ditch and berm has been created in the south of the area on the western side of the RoW close to the block valve station (see Photo 3.11Photo 3.11). This ditch is acting to drain water from the western area of wetland and carrying it to the south. As such, water is not reaching the RoW and not reaching the wetland to the east of the RoW, which is showing signs of negative effects with dried out understorey vegetation present and a noticeable reduction in bog mosses (see Photo 3.12).

Photo 3.11Photo 3.11: Ditch and Berm on west of RoW near KP231 preventing water from reaching RoW or wetland to east of RoW.

Photo 3.12: Poorly revegetated RoW as a result of dewatering

3.3.4 Proposed Intervention

In order to remediate the identified problems at this area, we recommend the following three actions:

- The ditch and berm should be filled in and removed;
- At least five culverts should be installed under the existing track at approximately 200m separation; and
- Consideration should be given to moving Wetland monitoring transect #22 further south closer to KP231 to look at the effects of the mitigation. Alternatively, when that transect is being surveyed, an additional level of survey should be completed in the KP231 area.

3.4 Drainage and Erosion Control

3.4.1 Slope Breakers

Slope breakers play an important part in managing slope drainage and erosion control. During the October 2014 visit slope breakers were found to be in mostly good condition at the RoW locations inspected. An example can be seen in Photo 3.13 from KP 422.5 south of the Pugachevo River.

Photo 3.13: KP 422.5 Slope with good slope breakers protection

During last year's (2013) visit RoW erosion was observed in KP 15.5 (Photo 3.14). Since then the area has been repaired (Photo 3.15 – provided by Sakhalin Energy) and it provides a good example of maintenance work and improvement of previously installed slope breakers.

Photo 3.14: RoW at KP15 in September 2013 showing development of erosion

Photo 3.15: RoW at KP15 in October on 21st October 2013 showing repair and improvement works

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 unvegetated 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 2014 site monitoring visit, the use of both types of matting was observed at numerous locations. The two most common and effective uses are the fortification of slope breakers and the coverage of certain steep slopes. Both geojute and coco mats are bio-degradable and will last only a limited number of years depending on soil and climate conditions. However, the use of these materials provides the temporary surface stabilisation necessary for vegetation to establish itself on slopes or slope breakers. Once the vegetation is established it promotes further, permanent soil/slope stability. There are numerous examples where the use of geojute and coco mats has successfully helped to achieve this goal (e.g. see Photo 3.16).

Photo 3.16: Well vegetated slopes on geojute at KP47

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.

During the October 2014 monitoring visit good use of Enkamat type geotextile was observed at the Plelyarna River banks at KP 15. The Enkamat was placed within the Reno matting and will aid in trapping soil particles and encourage vegetation growth on the mats (see Photo 3.17).

Photo 3.17: Use of Enkamat within Reno matting at the Plelyarna River

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.

During the October 2014 monitoring visit no silt fencing was observed. This is a positive development since silt fence would not have been needed or useful in any of the rivers that were visited. As was recommended in last year's monitoring report, Sakhalin Energy should continue its on-going programme of conducting a site-specific evaluation of whether to continue the use of silt fencing. If the continuing presence of the silt fencing in a specific location is no longer needed, then it should be removed.

3.4.5 River Crossings

During previous monitoring visits in September 2012 and October 2013, river crossing locations including riverbank stabilisation works were found to be in good condition. The October 2014 site visit found that the condition of the river crossings continues to improve. The main factor that contributes to the continuing stability is the improving vegetation cover on the riverbanks themselves and on the adjacent RoW. In addition, a variety of bank protection measures (including riprap, Reno matting and gabion walls) were installed at many rivers during construction and on-going maintenance of these measures is of a generally good standard. These protection methods are discussed in turn below.

Riprap

The continuing use and installation of heavy-duty rock at locations where previous smaller-scale riprap protection had been damaged during the spring thaw appears to be successful.

Numerous good examples were identified during the site visit, including at the Pobedinka and Pugachevo Rivers (see Appendix 2).

Reno Matting

Observations during the October 2014 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.

Although no damaged reno matting was observed during the current visit (the scope of river crossing visits was limited during this monitoring visit), it is recommended that reno matting is regularly inspected as it is vulnerable to damage on the upstream corner during high flow periods as has been observed in the past.

Gabion Walls

Gabion walls have been installed where required, mostly as riverbank protection in high energy rivers (e.g. the R. Podbiedenka – see Photo 3.18) and in many cases in conjunction with reno matting. At locations inspected during the October 2014 site visit the use of gabions on river crossings was seen to be successful.

Photo 3.18: Gabion wall on the south bank of the R. Podbiedenka

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.

Photographic evidence was provided by Sakhalin Energy demonstrates an extensive Category 3 works that were conducted within the last year on the central channel of the Nitui River at KP 326 – See Photos 3.19 and 3.20 below.

Photo 3.19: Aerial photo showing the Nitui and newly installed riprap walls

Photo 3.20: Ground photo showing the Nitui and newly installed riprap walls

3.4.7 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. During the October 2014 site visit it was observed that local people were present at several locations along the RoW and visible tracks of various vehicles entering and travelling on the RoW (including through rivers). It should be recognised that it is difficult/impossible for Sakhalin Energy to block access from road crossings, but it is nonetheless recommended that Sakhalin Energy continues to investigate methods to limit public access to the extent possible.

4 Prigorodnoye Production Monitoring Site Visit

4.1 Introduction

The Prigorodnoye production complex comprises the Liquefied Natural Gas (LNG) and Oil Export Terminal (OET) facilities. A monitoring visit was undertaken on the 7th October 2014 and included:

- Discussions over environmental management
- Review of selected environmental monitoring data
- Site inspection of the LNG production process, and the main ancillary and service areas (e.g. water and wastewater treatment, workshops, chemical storage, waste storage and back-up electricity generation).

4.2 Environmental management

Discussions were held with site HSE representatives in relation to the site's procedures for:

- Management of environmental incidents
- HSE auditing

These aspects are discussed in turn below.

4.2.1 Management of environmental incidents

The site procedures for the management and follow-up of environmental incidents were considered through review of Sakhalin Energy's response to an actual incident. The incident selected for consideration was a small oil spill at the OET that was identified in the Q1 HSESAP report previously issued to Lenders. The site HSE team was able to quickly access all relevant information on the incident response, including the incident investigation report.

Based on review of the incident investigation report, it appears that 60 litres of crude oil was spilt during an operational activity involving draining of pipework at the onshore OET area.

The investigation was generally appropriate, and included a causal analysis and the development of correction actions. However, we note that the report focused on causal analysis and corrective actions to prevent re-occurrence, but provided very limited detail on:

- The nature of the spill impact – While the incident report states that the "actual RAM" level is 1 (the lowest significance under the HSESAP incident assessment methodology), no detail is provided in the report to substantiate this. We understand from verbal discussions with site personnel that the spill was contained within an impermeable area, which would justify the assessed RAM 1 level. However, this level of detail should be provided in the incident report itself in order to substantiate the RAM assessment.
- The method of spill clean-up – The incident report merely states that "*the next day some clean up took place. Further clean up continued some days later*." Further details on the clean-up process, including information of the volume and disposal methods for oil contaminated materials, should be included in the incident report.

In total five actions were identified, each with assigned timescales and action parties. The actions were incorporated in the Fountain system and all five actions had been closed out at the time of the site visit.

4.2.2 HSE Auditing

An HSE auditing programme is in place at the Prigorodnoye production complex, with 31 separate audit scopes included in the 2014 audit plan. The plan is generally comprehensive and good progress is clearly being made against the plan. We do, however, make the following comments based on the audit timetable reviewed at the time of the site visit (i.e. the beginning of Q4 2014):

- While the audit timetable 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 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 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.
- 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.

As part of the site visit, an example of a completed audit report was requested for review. The selected example was an industrial hygiene audit undertaken on the 15th to 23rd April 2014. The site HSE staff located the audit report quickly. The audit report is largely focused on the identification of findings/observations and recommendations, with only very limited information provided on the scope and approach to the audit. This makes the comprehensiveness of the audit difficult to judge. The recommendations provided in the audit report are clearly stated. While target completion dates and action parties for each recommendation were not generally included in the audit report, this information has been included within the Company's Action Tracker system (see below for further comments on the relationship between the Action Tracker and the Fountain system).

One finding of particular note in the industrial hygiene audit report is the identification of naturally occurring radioactive material (NORM) on an intelligent PIG that had been received at the LNG facility in 2010. The audit report states that the PIG contractor recorded Low Specific Activity (LSA) "*from sand found on the equipment*" during monitoring of the PIG after it had been received back at the contractor's premises in Germany.

The following actions were recommended in the audit report, which were then added into the Company's Action Tracker:

ID	Recommendation	Target Date	Status (as of 15th October 2014)
1	Develop Pan Asset Procedure for handling of NORM contaminated equipment.	31st March 2015	In progress. Researching international O&G practice.
2	Do not treat PIGs (including diagnostic, gas PIGs) on LNG Plant, until special area for this purpose is equipped.	31st May 2014	PIG treatment is provided outside of plant area and decision has been taken not to organize such area inside the plant
3	Organize monitoring of NORM/LSA in dust/scale of vessel on gas PIGs receiving area	31st March 2015	As far as the tests for LSA could be conducted during operation and due to the fact that there have been no PIG receiving operations except at OPF, LSA tests were conducted there and no LSA detected.

The status of each action is provided in the above table based on information provided by Sakhalin Energy shortly after the site visit on the 15th October 2014.

One item of note identified during the site visit was that the Corporate HSE team appeared unaware of this audit finding and the associated recommended actions. Discussions with the Corporate HSE personnel suggest that this is likely to be linked to the fact that the actions were listed in the Action Tracker rather than the Fountain system. Discussions with both corporate and asset HSE staff identified a general lack of guidance to define whether actions raised following incident investigations or audits should be included in Fountain or the Company's Action Tracker.

According to the audit report, NORM was identified on PIG equipment in 2010. No comment is provided in the audit report as to when Sakhalin Energy first became aware of this issue. However, following the site visit, we were informed by Sakhalin Energy that in fact the LSA related to PIG activity in 2012 rather than 2010 as stated in the hygiene audit report. We were further informed that the contractor did not raise this issue with Sakhalin Energy until a meeting in February 2014, after which the Company undertook a review of the incident. The Company reports that the outcome of the review is as follows:

- "*It could not be confirmed that Sakhalin Energy had adequate protocols in place to identify and effectively manage the risk of LSA at the time of the pigging operation in 2012;*
- *It could not be confirmed that the contractor demonstrated at the time (2012) that the pig used was free of LSA contamination as no records related to the status of the pig (and positive identification) could be retrieved;*

- *Because of lack of positive identification and the time that had lapsed between the pigging operation and Sakhalin Energy being informed of LSA contamination, it could not be confirmed that the said contamination emanated from the pigging operation conducted at Sakhalin Energy in 2012;*
- *Sakhalin Energy conducts annual monitoring for ionizing radiation on all equipment deemed to be at risk of exposure (e.g. Well Work-over equipment and at Separation equipment at Platforms and OPF). Results of such monitoring have 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.*"
- Based on reports provided by Sakhalin Energy after the site visit, it would appear that monitoring of equipment following PIG operations between LUN-A and the OPF revealed no significant LSA.

In light of the above, we make the following recommendations:

1. ENVIRON will review progress on the development of NORM procedures at the next site visit.
2. 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.
    b. Both system need to be fully recognised at both the asset and corporate HSE teams.

4.3 Environmental Monitoring

The most recent industrial environmental monitoring undertaken at the Prigorodnoye production complex was reviewed during the site visit in relation to:

- Stack emission monitoring from the gas turbines at the LNG plant (five Frame 5 power generators and four Frame 7 compressor drives).

  The reviewed stack emission monitoring is undertaken in line with the HSESAP requirements. The reviewed monitoring data (undertaken between May and September 2014) showed that all emission levels were in line with regulatory requirements. However, in two instances (sampling from GTG-2 on 5/6/2014 and from GTG-4 on 5/9/2014) the NO_2 levels appeared to be in excess of the project standards defined in the HSESAP (which are more stringent that the regulatory limits). However, clarifications and corrections were provided by Sakhalin Energy shortly after the site visit that demonstrated that the two elevated NO_2 levels in fact related to monitoring during low load operation mode where different limits apply, and that these were within the applicable limits.

- Air quality monitoring at the edge of the Sanitary Protection Zone (SPZ).

  Air quality monitoring at the edge of the SPZ in 2014 is undertaken in accordance with regulatory requirements and no exceedances of permissible levels were identified.

- Treated effluent monitoring.

  Monitoring of the effluent treatment discharge is undertaken monthly. The results for 2014 were reviewed and all parameters were within regulatory limits except for a single minor exceedance in aluminium levels (likely to be due to dosing of an aluminium-based flocculent). However, the parameters monitored and the compliance standards against which pollutant concentrations are assessed appeared to be based solely on permit requirements and do not fully reflect 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 monitoring programme. Any specific parameters/issues will be discussed with ENVIRON on a case by case basis.

  Sakhalin Energy also proposes to review and update the HSESAP Water Use Standard Comparison Specification in May 2015.

We recommend that training and procedures for the assessment and reporting of emission monitoring are reviewed to ensure that compliance assessment includes consideration of both RF regulatory requirements and the standards included in the HSESAP.

4.4 Impressions from the Site Walkover

The site walkover comprised visual inspection of the following facilities:

- Waste storage areas, comprising:
  - A dedicated storage building for hazardous wastes
  - An exterior (unsheltered but bunded) area for storage of empty drums/barrels that had previously contained hazardous materials
  - A number of ISO containers for the storage of non-hazardous wastes (this is a temporary arrangement while the permanent non-hazardous waste storage area is being upgraded
- Workshop areas
- Hazardous material storage areas
- Bulk diesel (for back-up generators) and Heat Transfer Fluid (HTF) storage area
- Effluent treatment plant
- Water treatment plant
- The area around one of the gas turbine power generators (GTG1) that was under maintenance at the time of the site visit (this was viewed from the perimeter of the maintenance area for safety reasons).

The overall impressions from the site walkover were positive, with the design of the facilities being appropriate for their purpose and all facilities were found to be tidy and well maintained. The following areas of good practice were noted:

- Hazardous materials and wastes were stored in dedicated buildings with:
  - impermeable flooring and closed drainage as necessary
  - appropriate ventilation

  - spill kits
  - separate (isolated) storage areas for incompatible materials (and good compatibility signage to help maintain appropriate storage)
  - eye- and full body-wash facilities
  - MSDS sheets in storage areas
  - Generally good labelling of materials was evident
- Waste segregation and minimisation, including:
  - A plastic bottle compactor has recently been purchased (which will facilitate segregation of plastic wastes)
  - A dedicated area for waste skips outside the workshops is under construction
  - Good waste segregation in workshop areas for oily contaminated materials
- Bunds for bulk fuel/HFT liquid were appropriately sized and in good condition, and re-fuelling areas have impermeable standing with closed drainage systems
- Firefighting equipment/extinguishers are located in appropriate areas

A small number of areas for improvement were nonetheless identified from the walk-over as follows:

- Some plastic containers were noted in one of the sewage treatment plant (BR-200) without labels or secondary containment (Photo 4.1). 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.
- Unlabelled empty plastic containers (identical to the PAC containers at BR-200) were also found stored on a grid over the site rainwater drain near the temporary non-hazardous waste storage area (see Photo 4.2). 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).
- While the provision of eye-wash facilities and spill kits was generally good at the 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.
- 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 leads to increased risk of leak to the environment. It is therefore good to note that 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.
- Oil drums and containers at the site of the GTG1 maintenance works were found stored at the edge of the hardstanding area (i.e. close to unprotected soil) and without any secondary containment (see Photo 4.3).

Photo 4.1 Unlabelled containers stored without secondary containment at BR-200

Photo 4.2 Empty PAC Containers stored above the stormwater drain

Photo 4.3 Oil Drums and Containers Stored in the GTG1 Maintenance Area

5 Other Project Updates

5.1 Waste Management

5.1.1 Background

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

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

ENVIRON has previously raised concerns with non-hazardous waste management (e.g. see our October 2013 site visit report) in relation to:

- The adequacy of the management of the Smirnykh landfill, and more especially, the Nogliki landfill (this included the presence of a large methane 'bubble' in one of the leachate ponds at the Nogliki landfill)
- The future capacity of existing landfill facilities available to Sakhalin Energy (most especially at the Korsakov landfill).

5.1.2 Current Status

The current status of these issues was discussed during the October 2014 site visit, and is summarised below:

Landfill Availability and Capacity

- At the time of the visit, Sakhalin Energy had been informed that, due to licencing issues, it would no longer be able to dispose of non-hazardous (RF Class III and IV) wastes to either the Nogliki or Smirnykh landfill after the 18th November 2014.
- The Korsakov landfill now has very limited remaining capacity (although how long it is likely to continue operating is uncertain) and, in addition, it is uncertain whether it will be granted a licence renewal in February 2015.

We note that the importance of these capacity issues is heightened by the requirement for the OPF Compression project, the construction of which will result in the generation of significant additional non-hazardous waste in the north of the island (which is currently serviced by the Nogliki landfill).

Since the site visit, we understand that an extension has been granted by RPN allowing the Company to continue to dispose of non-hazardous wastes to Smirnykh and Nogliki landfills for a further six months, until 18th May 2015. All newly generated wastes, including the wastes temporarily accumulated by the Company at these landfills between 18th November 2014 and the issue of the new prescription on 25th December 2014, are currently being disposed of at Smirnykh and Nogliki landfills.

Adequacy of Landfill Management

- A site visit to the Nogliki landfill found that operational practices at the facility had not improved, and identified issues included:
  - Daily cover is not applied at all at the municipal or ENL cells, and inadequately at the Sakhalin Energy cell (at the time of the site visit no cover material was available). (See also Photo 3.3).
  - The leachate ponds were full, and while the site operators claimed that a pump was due the following week, visual inspection suggested that the water from the pond had been over-topping on to the surrounding area for some period of time (see Photo 3.4).
  - It was unclear from discussions with the operators whether regular sampling is undertaken from groundwater monitoring wells around the site (ENVIRON requested that Sakhalin Energy endeavour to obtain such monitoring results, if they exist, but these have not been received at the time of writing).
- The bubble in the municipal waste leachate pond at the Nogliki landfill was still visible during the 2014 site visit, although it was significantly smaller than witnessed during the previous site visit in October 2013 (see Photo 3.5 for comparative photographs). This indicates that some methane has been released, although it is unknown whether this occurred naturally or as a result of intervention by the site operator. Following the October 2013 site visit, Sakhalin Energy agreed to fund an investigation into the cause of the bubble (although responsibility for any corrective actions would remain with the landfill operator). The findings of the investigation report have been made available for review, and indicate the source of methane to be from leachate associated with an old closed waste cell. The report also presents a number of options for remediation.
- A site visit to the Korsakov landfill found that this facility continues to be managed to a high standard, although the issues with limited remaining capacity are also evident.

Photo 3.3 Lack of daily cover at Nogliki Landfill

Photo 3.4 Over-topping Leachate Pond at Nogliki Landfill

October 2013 **October 2014**

Photo 3.5 Bubble in the Municipal Cell Leachate Pond at Nogliki (Comparison of 2013 and 2014)

5.1.3 Proposed Sakhalin Energy Plan

In response to the evolving status of the availability and capacity, Sakhalin Energy has proposed the following outline strategy for the management of non-hazardous waste:

- **Short/Medium Term Strategy**
    - Conduct a tender for transporting waste off the island to the far east RF mainland
    - Options post closure of the Korsakov landfill being considered are:
        - Use of a planned new municipal landfill near Yuzhno-Sakhalinsk (although it is noted that there is no guarantee this this would be commissioned before the Korsakov landfill closes)
        - Transportation of wastes to the mainland.
- **Longer Term Strategy**
    - Sakhalin Energy to develop its own waste facilities (potentially including both landfills and incinerators) in the north and south of the island, likely at the OPF and LNG sites linked to the OPF Compression Project and the potential Train-3 Project respectively[8].

5.1.4 Comments and Recommendations

In light of the above findings, we make the following comments:

- Transport of waste over long distances is undesirable but now seems inevitable, at least in the medium term.
- There is currently no information on the adequacy of the standards to be applied to the proposed new municipal landfill near Yuzhno-Sakhalinsk or of the standards applied at RF mainland landfills.

[8] We note that the Train-3 Project is not yet confirmed

- While it is possible that the licencing situation at Nogliki landfill may change, the operating standards being applied at this facility remain well below those required under the HSESAP.
- The Smirnykh landfill has the only currently available area for storage of contaminated soils in event of an oil spill and, as such, alternative disposal routes for such wastes need to be investigated.
- In principle, ENVIRON considers that the long term aim to bring waste management under the Company's own control is reasonable, although in practical terms we note that there will be a significant lead time for development of the Company's own waste facilities due to:
    - The need to obtain permits and also the need to consider the waste facilities in the ESIA/cumulative impact assessment for the OPF Compression and Train-3 Projects
    - The current timescales for the development of the OPF Compression Project are such that it is unlikely that a dedicated landfill could be developed in time to receive all construction wastes (although noting that we understand that the time schedule for the OPF Compression Project is likely to be revised by the Company in the near future)
    - The Train-3 project is not confirmed, so it cannot be confirmed that a waste facility at the LNG site is feasible
    - The suitability of the OPF and LNG sites for the construction of landfills needs to be confirmed (in particular we note the potential difficulties in developing a landfill facility in marshland areas around the OPF site).

We make the following recommendations in relation to Sakhalin Energy's waste management strategy:

- Urgent actions – Sakhalin Energy needs to:
    - Develop a contingency plan for the transfer of waste to the mainland, including:
        - Identification and audit of potential waste disposal facilities
        - A waste transport strategy
        - identification of waste contractors (transport and disposal)
- Medium term actions:
    - Undertake a detailed waste generation assessment for the OPF Compression project to:
        - 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 suitability for the construction of waste facilities and the associated design implications

5.2 Project Developments

5.2.1 Sakhalin-3 Tie-In

The Sakhalin-3 tie-in has been completed, although the first batch of oil has yet to be received. The site of the tie-in was inspected during the site visit, and it was identified that the area requires final reinstatement (final levelling and re-vegetation); we understand that such works should have been performed by the Sakhalin-3 operator, but that Sakhalin Energy is now likely to undertake these works itself during 2015. This delay in the final reinstatement does not pose a significant environmental risk.

5.2.2 Train-3 Project

Sakhalin Energy has confirmed that it is actively investigating development options for a third LNG train at the Prigorodnoye production complex. The potential plans are in the early stages of development and, as such, there are no immediate environmental and social issues to be reviewed.

5.2.3 OPF Compression Project

It was reported during the site visit that the design of the gas turbine compressors for the OPF Compression Project had been fixed (the FEED design is based on three 32MW compressors, which ENVIRON considers to be the most appropriate solution in terms of meeting lender standards).

ENVIRON has previously provided review comments to Sakhalin Energy on the draft ESIA that was developed for the OPF Compression project in 2013. Key findings from our review relate to:

- Assessment in line with the IFC Performance Standards and in particular the need to classify and manage natural/critical habitats according to Performance Standard 6, including:
  - Potential methods for no net loss/ net benefits for three red data book lichen species, including:
    - Translocation of lichen
    - Forest habitat creation/rehabilitation
  - Assessment of cumulative impacts (including waste facilities if developed as part of the Compression project – see above)

The review comments were discussed with Sakhalin Energy, and we understand that the ESIA will shortly be revised to address these comments. ENVIRON will review the revised ESIA on behalf of lenders when it is available.

5.3 Effluent Discharges

5.3.1 Emissions from Platforms

Exceedances against applicable standards have previously identified in a number of parameters from STP discharges from the PA-B and LUN-A platforms. This included exceedance of both regulatory permit limits and the most recent MARPOL standards (noting that the STP marginally pre-date these latest MARPOL standards). Revised maintenance/operating procedures have improved the performance of the STP, and recent

monitoring data indicate that the latest MARPOL discharge standards are now met. However, the discharge levels of certain parameters, and most specifically ammonia and phenols, do not meet Russian permit requirements.

As previously reported (see WATER.04 and WATER.12 in the Findings Log), 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. However, the need to meet local regulatory standards is a lender and HSESAP requirement, and we therefore recommend that Sakhalin Energy produces a note to lenders justifying this position and requesting a formal derogation against the HSESAP on this aspect.

Some exceedances of permit limits for phenol levels were also identified in early/mid 2014 at PA-A (see also WATER.11 in the findings log). This situation is being addressed through improved maintenance (and noting that levels were in compliance in August 2014, the last month for which data were available at the time of the site visit) and, in the long term, via the installation of a new STP unit to work in parallel with the existing units.

5.3.2 Onshore Emissions to Land/Soakaways

A general permitting issue related to discharge of treated water to land/soakaways has previously been reported (see the September 2012 and October 2013 Site Visit Reports and also 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 for discharge of treated water to ground at its onshore facilities.

We note that the on-going discharges are unchanged from the previously permitted discharges and that the issue is of a technical legal nature. We again suggest that Lenders seek the opinion of their legal advisors on this matter (see also WATER.08 in the Findings Log).

5.4 Monitoring Programmes

5.4.1 Introduction

Sakhalin Energy is currently updating its biodiversity monitoring plans (so-called Monitoring Strategy reports). There are a number of Monitoring Strategy Reports, each of which covers a different biodiversity aspect. The Monitoring Strategy reports are currently being reviewed in an iterative manner by ENVIRON, and the status of the review progress is summarised on a plan-by-plan basis in sections below.

5.4.2 Ballast Water

The intention of the programme is to reduce the risk of non-native invasive species being introduced to local marine ecosystems by discharge of ships' ballast water and ships' fouling. This will reduce the potential for impact upon coastal ecosystems and satisfy relevant local and international requirements.

The main components of the programme are the identification of species within ballast waters and monitoring of flora and fauna in the Prigorodnoye Port Area. This is achieved

through the monitoring of plankton, benthos, ships' fouling and the hydrochemistry and hydrology of the marine environment.

Species atypical of the local area have been identified by monitoring. However, these species are often of sub-tropical origin and generally could not survive as breeding populations within the relatively cold Sakhalin waters. No 'harmfully invasive' species have been identified to date.

Based on the results of monitoring to 2013, Sakhalin Energy proposes that the current monitoring programme should continue at its present annual frequency, but with additional measurements of water temperature, salinity, pH and dissolved oxygen.

ENVIRON considers the proposed scope and frequency of monitoring to be appropriate.

5.4.3 Hydrology

The hydrology monitoring programme is designed to identify changes in water quality, sediments and the morphology of rivers within the influence of the pipelines, the OPF and the LNG. Monitoring is typically conducted twice per year at two locations in in a number of selected rivers (one upstream and one downstream of either a pipeline crossing, the LNG or OPF).

Hydrological monitoring commenced in 2009 at 30 rivers. Since that time, the hydrological conditions of some of these rivers have been assessed to be 'stable' and have therefore been removed from the program. Other rivers have also been added to the program, to monitor the effects of planned engineering works or other factors.

In 2013 monitoring was conducted at 25 rivers. Two of these rivers were located in the vicinity of the LNG and one near to the OPF, with the remainder being along the route of the pipeline. The results of monitoring in 2013 identified some anomalous features, but these can be attributed to natural processes. No anthropogenic impacts were identified.

Sakhalin Energy proposes that the monitoring scope should essentially remain unaltered for 2014, with the exception of some modification to the suite of chemical parameters. These modifications involve increasing the number of parameters measured in rivers of a high fisheries interest, and omitting analysis for substances that could not be produced from the operation of Sakhalin Energy facilities. We agree that these proposals are justified.

5.4.4 Protected Birds

Monitoring is conducted to measure the condition of protected bird populations and to enable the mitigation of adverse impacts from Sakhalin Energy assets. The scope of the program includes the assessment of bird biodiversity, the collection of data on abundance and distribution of bird species, the mapping of nesting sites and the identification of changes to bird habitats and populations. Mitigation measures are developed based on the findings of the monitoring program, if required.

Monitoring is carried out around the LNG, the OPF and along the pipeline RoW. Particular attention is paid to a section of pipeline near the Chaivo lagoon, which is of high biodiversity value and is designated as an Important Bird and Biodiversity Area (IBA).

The program commenced in 2008, and has been gradually reduced in scope and frequency to eliminate unnecessary monitoring of areas that were proven to have a negligible risk of suffering adverse effects. The latest round of monitoring, in 2013, has revealed no significant impacts on protected species or bird communities around the LNG, pipeline route

and BS-2. Monitoring at the LNG will continue at a frequency of once every 3 years, but this will be restricted to protected species and will not include a survey of baseline species as has been done in the past. Monitoring will also continue on a 3 yearly basis along the pipeline route, but only within 5 selected areas and only for protected species (pending confirmation from the assessment of 2014 monitoring results). No further monitoring is required at BS-2.

At the OPF, monitoring has identified a decrease in the numbers Long-Billed Murrelet, the reason for which is still unknown. There have also been construction activities by another oil company in the area around the OPF, and the construction of a new compressor station is planned by Sakhalin Energy. Monitoring will therefore continue, although the frequency of monitoring (3 yearly or annually) will be determined following the assessment of 2014 monitoring data.

The number of birds at the Chaivo lagoon area has reduced markedly in recent years, but this is not attributable to the pipeline. However, some potential changes to the hydrological regime have been identified that could be related to the restoration of the pipeline trench. Monitoring will therefore continue, on an annual basis.

5.4.5 Steller's Sea Eagle and White Tailed Sea Eagle

The Steller's sea eagle and white-tailed sea eagle populations are monitored in the north-eastern part of Sakhalin island. Monitoring commenced in 2004, and since then the scope has been appropriately reduced in-line with the termination of construction activities and the findings of monitoring. Currently, monitoring is carried out along the pipeline corridor, around the OPF and within Lunsky Bay. The latter monitoring area is beyond the area of influence of Sakhalin Energy's assets and serves as a control zone. The current program includes the registration of birds, the identification of nests, the evaluation of reproduction rates, the assessment of bear predation and the development of mitigation measures.

The findings of the monitoring program have been used to design a number of mitigating measures. These include avoidance of helicopter flights near nesting sites, the control of traffic along relevant Sakhalin Energy roads and the development of a Repair Activities Mitigation Measures Action Plan.

Surveys have shown that the mitigation measures have been effective in controlling impacts from asset construction and operation. For example, abnormally bad weather in 2010 led to a significant decrease in nesting activities. However, by 2011-2013 the population had recovered to the extent that the reproduction rates around Sakhalin Energy's operations were on occasion better than in the Lunsky Bay control area.

No changes to the current monitoring scheme are proposed.

5.4.6 Sakhalin Taimen

The Sakhalin Taimen study was initiated following an invitation for Sakhalin Energy to participate in a United Nations long-term environmental project. It is not a requirement of the HSESAP or the local monitoring program. The main objective of the survey is to gather information on a typical river basin populated by Sakhalin Taimen that is crossed by the pipeline. Two catchments have been studied since monitoring started in 2011: The Khandasa river in 2011 and 2012, and; the Lazovaya river catchment in 2013 and 2014.

From the study, the structure of the Sakhalin Taimen population in the above catchments has been identified and baseline characteristics defined. It is proposed that after completion

of the Lazovaya River study in 2014 monitoring will be switched to rivers in the Tymovsk and Nogliki catchments. Each of these two rivers will be monitored for two years.

5.5 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. At the time of the site visit, year-to-date (the end August 2014) cumulative flaring across all assets was less than 3 bscf, which is less than the equivalent period in each of the previous three years. This demonstrates the achievements made by the Company in flaring minimisation, and the Company is currently on course to meet the 5% flaring limit for associated gas in 2014.

5.6 Western Gray Whale Advisory Panel

5.6.1 Introduction

The fourteenth meeting of the Western Gray Whale Advisory Panel (WGWAP-14) was held in Yuzhno-Sakhalinsk immediately prior to the October Site between the 29th September and 1st October 2014. ENVIRON will provide a summary of the meeting and the recommendations made by Panel once the formal WGWAP-14 report has been issued. In the interim, we provide below brief summaries of the two most significant topics discussed at WGWAP-14, namely:

- The approach to the evolution of the Panel in future
- The assessment of Sakhalin Energy's proposed 4-D seismic survey in the Piltun-Astokh field (adjacent to the inshore WGW feeding ground) planned for 2015.

A summary of each of these issues is provided below.

5.6.2 Evolution of the Panel

IUCN periodically commissions an independent evaluation of the WGWAP process. The latest evaluation was undertaken in 2014, and the findings of the evaluation were presented by its author (Turner) at WGWAP-14. The evaluation found that many of the stakeholders in the Panel process had identified areas where changes to the function, scope and structure of Panel would be beneficial. Such areas for potential change included:

- The need to recognize the changing role and position of Sakhalin Energy in the context of wider oil and gas activity offshore of Sakhalin Island
- The need to engage with other stakeholders, including regulators and other operators
- The need to better address range-wide and cumulative impacts

With this in mind, it was agreed at WGWAP-14 that a steering group would be set up to investigate and consult with all relevant stakeholders as to how the Panel may be best involved once the current Terms of Reference (ToR) for the WGWAP expires in 2016. In order to help ensure that this process takes due account of Lender requirements, ENVIRON has been invited to participate in this steering group. We will report to Lenders on the progress made in this regard over the coming months.

There was also some suggest that other changes to the Panel could be considered prior to the end of the current ToR. In this regard, ENVIRON stressed to Sakhalin Energy, IUCN

and the Panel members, that any proposed changes to the Panel during its current term could only be made in line with the stipulations of the agreed ToR and should not change the basis of the existing ToR.

5.6.3 4-D Seismic Survey

Sakhalin Energy is planning to undertake a 4-D seismic survey of the Piltun-Astohk field in 2015. The proposed survey is significantly greater in spatial extent than the previous survey performed in 2010, and covers areas closer to the mouth of Piltun lagoon (an area thought to be of particular importance to WGW). The potential noise impacts on WGW from this activity are currently being assessed by the Panel's dedicated Noise Task Force (NTF) during a meeting held in October 2014 and a later meeting planned for November 2014. Under normal circumstances the findings of the NTF are discussed at wider WGWAP meeting prior to the final WGWAP recommends being formalised. In this instance, it was decided at WGWAP-14 that it was not possible to schedule the next full WGWAP meeting to occur in time for such formal WGWAP recommendations to be developed in a timely manner to be considered by Sakhalin Energy in its planning for the 2014 survey. It was therefore decided that the deliberations of the Noise Task Force would be considered through a remote consultation period scheduled for the end of November 2014. ENVIRON, along with other observers to the \WGWAP, will participate in this consultation process and we will report to Lenders on this matter in due course.

In addition, Sakhalin Energy needs to develop an Environmental and Social Impact Assessment (ESIA) for the 4-D Seismic Survey in line with lender requirements. We understand that the ESIA is currently being developed and will be provided to ENVIRON and Lenders for review in due course.

5.7 R22 Elimination

The only refrigerant used by Sakhalin Energy which is an ozone depleting substance is R22, which has a very low Ozone Depletion Potential (ODP) of 0.05. R22 is being phased out in much of the world and in the EU it is scheduled for phase-out in December 2014. The Sakhalin Energy Air Emissions and Energy Management Standard, which requires the elimination of ozone depleting substances, does not apply to domestic-sized appliances. Nonetheless, Sakhalin Energy is working towards the elimination of R22 in its equipment and the Company provided a status of its progress towards the elimination of R22 shortly after the October 2014 Site Visit, and this is presented below.

Asset	System, where R22 is used	Equipment quantity, pcs	Elimination measures and deadline for replacement
OPF	Accommodation wing room AC splits 166 in total	1	Arisen 6000-2014-4538 - MoC to replace R-22 for R-410 PAO accommodation room A/C units replacement (deadline 2019)
OPF	PAO Administration building AC units	8	Arisen 6000-2014-4537 - MoC to replace R-22 for R-410 PAO main area A/C units replacement (deadline 2019)
OPF	PMD Office AC system	2	MOC will be open later
OPF	PAO Administration building IT Room	1	Replaced
OPF	OPF PAO Food storage chilled rooms	2	Arisen 6000-2014-4536 - MoC to replace R-22 for R-410 PAO installation new canteen cooling units (deadline 2016)

BS2	HVAC administration building	4	Equipment was refilling R-407
BS2	HVAC electric power substation (подстанция)	1	MOC well be arisen at November 2014
Zima Complex	-	242	5 pcs were replaced by equipment with R-410A. next step is to replace 45-50 pcs per year till 2020.
SEB-2	Chiller (чиллер)	2	Planned to replacement in 2019
SEB-2	columnar split system (сплит система колонного типа)	1	Take out of service in October 2014
SEB-2	columnar split system (сплит система колонного типа)	2	Take out of service in October 2014
SEB-1	split system	2	Take out of service in 2013
SEB-1	split system	3	Planned to replacement in 2016
SEB-1	precision air conditioner (прецизионный кондиционер)	1	Take out of service in 2013
SEB-1	precision air conditioner (прецизионный кондиционер)	2	Planned to replacement in 2019
SEB-1	air cooling unit	2	Planned to replacement in 2019
Temporary office	window air conditioner	28	Take out of service in 2013
Temporary office	split system	8	Take out of service in 2013
LNG	BLD04-LNG work shop	7	Arisen MOC - 7000-2014-4204 - R-22 AC units replacement in LNG,PRP,KPA (deadline 2019)
LNG	Port Marine Service Building	24	Arisen MOC - 7000-2014-4204 - R-22 AC units replacement in LNG,PRP,KPA (deadline 2019)
LNG	BLD01-Port Marine Admin Building	3	Arisen MOC - 7000-2014-4204 - R-22 AC units replacement in LNG,PRP,KPA (deadline 2019)
LNG	BLD11-Training/Canteen Building	3	Arisen MOC - 7000-2014-4074 - Canteen cooling units replacement (deadline 2015)
LNG	BLD13-GARAGE	1	Arisen MOC - 7000-2014-4204 - R-22 AC units replacement in LNG,PRP,KPA (deadline 2019)
LNG	BLD05-Warehouse	1	Arisen MOC - 7000-2014-4204 - R-22 AC units replacement in LNG,PRP,KPA (deadline 2019)
LNG	BLD11-Training/Canteen Building	1	Arisen MOC - 7000-2014-4204 - R-22 AC units replacement in LNG,PRP,KPA (deadline 2019))

6 Summary Suggestions

A number of suggestions are made following the site visit that do not relate to specific areas of non-compliance (and hence are not included in the Findings Log – see Section 8), but which are made for the benefit of either Sakhalin Energy and/or Lenders to either improve performance or, in some cases, avoid future areas of non-compliance. These are summarised below, together with Sakhalin Energy's response to those suggestions for which they are the action party.

ID	Topic	Suggestion	Action Party	Sakhalin Energy Response
1	HSESAP	Revision 4 of the HSESAP social specifications was approved internally by both Sakhalin Energy and ENVIRON back in 2012. Certain minor changes in procedures implemented by the Company have occurred since then. This resulted in some inconsistencies between current practices and the text of the HSESAP social specifications. ENVIRON suggests to make necessary amendments to the latter and is ready to review the corrected version of the document.	Sakhalin Energy / ENVIRON	Sakhalin Energy will review current practices and the text of the HSESAP social specifications in December 2014 – February 2015, and will propose ENVIRON necessary amendments for review in March 2015.
2	Corporate website	The new HSESAP revision has not yet been uploaded to the Company's website. At the same time, Revision 3 is available there together with several tables reflecting changes between Revisions 2 and 3. In order to make the website more user-friendly, ENVIRON suggests to upload Revision 4 of the HSESAP to the website and to archive old documents.	Sakhalin Energy	Sakhalin Energy will upload new HSESAP revision to the Company's website and archive old documents in order to make the website more user-friendly. (Target Q2 2015)
3	Issuing Social Documents	ENVIRON recommends to issue and approve key social plans (PCDP, PCDR, SP Plan) in the beginning of the year, i.e. no later than Q1 of each year.	Sakhalin Energy / ENVIRON	Sakhalin Energy will make best efforts to issue and approve key social documents (PCDP, PCDR, SP Plan) no later than Q1 of each year.
4	Information Centres	In order to optimise documents' layout on the information holders located in the info-centres and to simplify navigation, ENVIRON suggests keeping only up-to-date versions of the materials on the holders and archiving old papers.	Sakhalin Energy	Sakhalin Energy will ensure keeping only up-to-date versions of the materials on the holders and archiving old papers ASAP (depending on Information Centres capacity and visitors' interest). It will be checked during each information

ID	Topic	Suggestion	Action Party	Sakhalin Energy Response
				centres' visit.
5	Information Centres	It is noted that "Vesti" newspaper is not included in the minimally required document package to be placed in the info-centres, however, given that it is in demand with the local population, ENVIRON suggests considering potential options to ensure availability of the most recent editions in the libraries.	Sakhalin Energy	Sakhalin Energy will ensure availability of the most recent editions in the libraries. It will be checked during each information centres' visit.
6	Information Centres	In order to get the most out of the information collected by/from the Company info-centres and to ensure comparability, ENVIRON suggests to standardize the monthly reporting format, as well as to provide a refreshment training session on filling in the visitors register to the info-centres' employees.	Sakhalin Energy	Sakhalin Energy will review monthly reporting format, including with Information Centres' consultants to find ways for improvement. Once the revised format and reporting channels are agreed, appropriate training will be provided.
7	Public Consultations	ENVIRON recommends to consider the State New Year holidays while planning the second round of public consultations on the OPF Compression Project. If the first public meeting takes place during the New Year holidays, it is advised to conduct additional informational session at least in the closest residential area to the Project site (Nysh settlement).	Sakhalin Energy	The schedule has been revised; current plan is to start the second round of public consultations on the OPF Compression Project February-March 2015 (certainly holidays during this period to be taken into account).
8	Internal Grievance Mechanism	In order to increase informative value of the Awareness Survey scheduled for the end of 2014, as well as to address a potential problem of low level of employees' awareness of the existing grievance redress mechanisms, ENVIRON suggests the following: - Reformulate the Awareness Survey question and make it 'open-ended'; - Add question on the HR GP to the survey questionnaire; - Consider refreshment activities in case the Awareness Survey demonstrates low level of awareness. (Note: Since the site visit the Company has confirmed that the questionnaire has been updated (see response column). ENVIRON will review the questionnaire in due course.)	Sakhalin Energy	Sakhalin Energy finalised its regular annual awareness survey in December 2014. Part of questions were reformulated, one question was added (regarding how/whom to apply in case of employee's rights breach). The results of the survey will be completed by the end of January. If the results demonstrate low level of awareness the company will consider and hold relevant refreshment activities. In addition information about WB hot line was added into Induction session that is mandatory for all new comers.
9	Local Employme	ENVIRON suggests that Sakhalin Energy considers ways of encouraging its	Sakhalin Energy	Sakhalin Energy has the commitment for Russian

ID	Topic	Suggestion	Action Party	Sakhalin Energy Response
	nt	contractors to recruit locally, as well as to provide local people visiting the Company's info-centres with job-related questions with advice on checking job centres for availability of additional employment opportunities.		Content. This commitment includes incorporation in the tender matrix (technical qualification) the imperative conditions for Russian content (including manpower). Where any gaps and/or opportunities to increase Russian personnel have been identified, the relevant contractors have development plans to find, train and employ local (Sakhalin) and mainland personnel to meet the requirements.
10	RoW	**Erosion/sedimentation control** – The issue of adequate vegetation cover on steep slopes is on-going. We suggest that Sakhalin Energy continues to maintain erosion and drainage control in order to minimise sedimentation impacts on the receiving rivers. Given the difficulties encountered with the re-vegetation of some of these slopes, we also suggest the consideration of different techniques to ensure successful re-vegetation.	Sakhalin Energy	Sakhalin Energy has the commitment for maintain erosion and drainage control in order to minimise sedimentation impacts by reseeding program implementation and Cat 2, 3, 1 repair work with river (hydrology) monitoring on key sites (rivers).
11	RoW	Tree cutting. It is suggested that Sakhalin Energy further increase the amount of tree cutting on the RoW to keep up with the growth and to eventually actually reduce it to an annual manageable level.	Sakhalin Energy	Sakhalin Energy has the commitment for prolongation of the tree cutting program. SoW will be finalized in May-June based on spring RoW walk assessment by GTT site specialists.
12	RoW	**Induced access** – It is recognised that it is difficult/impossible for Sakhalin Energy to block public access from road crossings, but it is nonetheless suggested that Sakhalin Energy continues to investigate methods to limit public access to the extent possible.	Sakhalin Energy	Sakhalin Energy will continue to inform local people using existing communications for HSE culture level increase
13	Aqueous Discharge to Land	Sakhalin Energy's original RTN permits for discharge of water to land ('soakaways') 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 for discharge of treated water to ground at its onshore facilities. We note that the on-	Lenders	N/A

ID	Topic	Suggestion	Action Party	Sakhalin Energy Response
		going discharges are unchanged from the previously permitted discharges and that the issue is of a technical legal nature. We suggest that Lenders seek the opinion of their legal advisors on this matter (see also WATER.08 in the Findings Log).		
14	Incident Reporting	An incident report viewed during the LNG site visit, found that insufficient information was provided on the nature of the environmental impacts or the immediate clean-up actions. We suggest that Sakhalin Energy reviews incident reports to ensure that all relevant information is provided to fully assess the incidents and that further training be provided on the completion of incident reports if necessary.	Sakhalin Energy	The Incident Reporting Standard will be updated to reflect the importance of providing specific information on environmental related incidents. Additionally, Incident Review Panels (IRPs) will be instructed to challenge the quality of information related to environmental impacts and follow up activities.
15	Audit reporting	An audit report reviewed during the LNG site visit, found that the report provided insufficient detail on the scope and approach of the audit in order to effectively judgement the comprehensiveness of the audit. We suggest that Sakhalin Energy reviews audit reports to ensure that the scope and approach of the audit are adequately described and that further training be provided on the completion of audit reports if necessary.	Sakhalin Energy	Sakhalin Energy is in the process of updating HSE Audit procedure and will capture the identified gaps.

7 Data / Information Request

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

ID	Data Request	Status
1	Groundwater monitoring data for Nogliki and Korsakov landfills	Awaited (we understand that the Company is investigating whether this can be made available by the landfill operators)
2	Nogliki landfill 'bubble' investigation report	Provided
3	Update on status of phase-out of R22 across the company assets	Provided
4	STP discharge monitoring results for the OPF (to confirm that previous problems have been resolved)	Provided
5	Status of actions related to NORM following an industrial hygiene audit of the Prigorodnoye complex 15-23 April 2014	Provided

8 Findings Log

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

a) All issues not closed out at the date of the previous report plus new Findings identified during that visit;

b) All actions from the Rivers, Erosion and Wetlands Remedial Action Plan (RemAP) 2007 for completeness;

c) HSE Issues[9] raised in regular reports to Lenders since the date of the last IEC visit (i.e. from October 2013 to date) and still having open actions;

d) Actions arising from HSESAP revision process.

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

Findings are listed in the **Findings** column, and have been categorised, put into chronological order (by date identified) and given a reference number (AIR.01, AIR.02 etc). Items have also been ranked according to Sakhalin Energy's Methodology[10], 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.

[9] 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).

[10] Assessed as per Risk Assessment Matrix

Ref[11]	Rank[12]	Status	Date	Topic	HSESAP Ref.	Finding	Action Progress Review	Action#
AIR EMISSIONS AND ENERGY MANAGEMENT								
AIR.07	Low Amber	**Open**	Oct 11 (PA-B audit)	Stack emission monitoring	Air Emissions and Energy Standard Rows 10 & 11 Doc. 0000-S-90-04-O-0257-00-E App 4, Rev 02	To date there has been no measurement of emissions from either the compressor/generator stacks. Moreover there is no means to take such samples i.e. no sampling window for such monitoring. Sakhalin Energy is therefore unable to demonstrate that emissions from these sources meet the applicable Project standards.	**Action**: Rework MOC #3000-S-10-32-Y-0027 to develop full engineering solution for installation of sampling points on compressor/generator exhaust stacks. Ensure design reflects requirement of appropriate engineering standards i.e. GOST-R/ ISO11042-1 “Exhaust gas emission. Measurement and evaluation”. **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. **01.11.12**: Sakhalin Energy held a meeting to reassess the requirements and stack survey SoW required to fit the bill. Solutions were agreed. **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	612347 - CLOSED 26/11/12 612348

11 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.

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

Ref[11]	Rank[12]	Status	Date	Topic	HSESAP Ref.	Finding	Action Progress Review	Action#
AIR.10	Low Amber	**Closed**	Oct-13	Air emission (OPF Compression Project)	Air Standards Comparison IFC EHS Guidelines	At the October 2013 Site Visit, ENVIRON was informed that the decision over the specification of the generators was being re-assessed to consider: • 16 MW Generators • 25 MW Generators • 32 MW Generators We note that on the basis of the data provided only the 32 MW generators would appear to meet IFC EHS standards. In addition, the option analysis needs to consider issues of landtake and reliability.	**Action:** The selection of configuration for the project is under discussion with shareholders and this analysis will consider all issues. It is expected that shareholders will endorse a configuration and compressor/drivers size in Q1 2014. **08.04.14:** Gazprom has confirmed that it supports the 32 MW Driver/Compressor configuration for OPF Compression. Finding closed.	757367 - CLOSED 15/04/14
AIR.11	Low Amber	**Closed**	Oct-13	Emissions to Atmosphere	0000-S-90-04-O-0257-00-E Appendix 4	From the emission results supplied to ENVIRON, the emissions from the electricity generating turbines at the OPF do not currently appear to comply with the NOx emission requirements of the HSESAP. In addition, carbon monoxide concentrations in the stack appear to be in excess of RF limits in some instances. However, full understanding of the nature of the results and any apparent exceedances of HSESAP/regulatory limits is difficult to determine on the basis of the available monitoring data. In particular, further details on the operating conditions under which the stack monitoring was undertaken are required.	**Action**: It is recommended that Sakhalin Energy examines the power turbine emission sampling method, strategy and laboratory analysis quality. This should be undertaken to ensure that accurate emission data are obtained. **26.08.14**: "Procedure for Assessment and Use of Industrial Emissions Measurements Results" provided for review, which includes details of workshops conducted with Asset Environmental Advisors and the laboratory making the instrumental measurements. **04.09.14**: The key point to note is that recording of operational conditions (importantly including load) to better help interpret analysis are included in the procedure. In this regard, ENVIRON agrees that this closes out the relevant action. Emission monitoring data will be reviewed during the forthcoming site visit (Oct14)	757338 - CLOSED 04/09/14

Ref[11]	Rank[12]	Status	Date	Topic	HSESAP Ref.	Finding	Action Progress Review	Action#
Air.12	Low Amber	**New / Closed**	Oct-14	Emissions monitoring	Air Emissions Standards Comparison, Document 0000-S-90-04-O-0257-00-E Appendix 4, Revision 03	Training and procedures for the assessment and reporting of air emission monitoring should be reviews to ensure that site personnel of need to assess compliance against not just regulatory permit requirements but also the standards included in the HSESAP	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
WATER USE								
WATER.03	Low Amber	**Open**	Apr-10	Water – effluent quality – phenol (OPF)	0000-S-90-04-O-0255-00-E Appendix 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.	**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. **Action**: Status of existing issues and concentrations, and any future issues to be reported via monthly/ quarterly reporting as per WATER.02. **07.06.11**: Treatment system to control suspended solids and hydrocarbons: Project is currently being developed, and front end engineering design 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. **Action**: Sakhalin Energy to advise on progress towards installing the permanent treatment system. **13.02.12**: No further progress to date. **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. **15.11.12**: Update provided, Action #618507 closed. Expect information regarding the new permit as part of the quarterly reporting process, and the next progress update just prior to the 2013 IEC visit.	467657 - CLOSED 28/6/11 618507 - CLOSED 15/11/12 But treatment system is still in the design (and pre-approval) stage - do not close WATER.03 until treatment system is in place.

Ref[11]	Rank[12]	Status	Date	Topic	HSESAP Ref.	Finding	Action Progress Review	Action#
							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.	
WATER.08	Low Amber	**Open**	Sep-12	Water use permit	Permit compliance	An issue has been identified with the validity of valid environmental permits has been identified, which relates to water discharges to land. A number of water discharges (e.g. treated surface water runoff) to ground were originally permitted by the applicable Russian authority, RTN. Responsibility for environmental permitting has now moved from RTN to RPN. However, RPN does not yet have a regulatory procedure in place to issue permits for these discharges. Sakhalin Energy's original RTN permits for discharge of water to land have now expired and applications to obtain new permits from RPN cannot be legally approved due to the current absence of an applicable regulatory procedure for these discharges. In the interim, Sakhalin Energy is continuing to operate in line with the previous (expired) permits issued by RTN, including reporting of monitoring results versus limits and payment of normal fees.	**Action**: Resolution of this issue is required. **27.02.13**: Sakhalin Energy has duly developed 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 Russian Federation. **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. **11.04.13**: ENVIRON agrees with this approach. Finding remains open. **Oct 13**: No change. (Note ENVIRON suggestion to Lenders to seek legal opinion from the legal consultant) **Oct 14:** No Change. ENVIRON reiterates suggestion to lenders to seek legal opinion from the legal consultant.	Fountain actions not advised

Ref[11]	Rank[12]	Status	Date	Topic	HSESAP Ref.	Finding	Action Progress Review	Action#
WATER.09	Low Amber	**Closed**	Sept 12 (BS-2)	Water use permit	Permit compliance	Discharges from the sewage treatment plant (STP) at BS-2 during the first 2 quarters of 2012 have shown exceedances of existing Maximum Permissible Discharges (MPD) for phosphate (in quarters 1 and 2) and nitrites (quarter 1 only).	**Action**: The reason of the exceedance is the blockage of receiving tank aerator by sludge which resulted in water stagnation. Sakhalin Energy to develop Action Plan for improving STP performance. **27.02.13**: STP Operation Improvement Action Plan" was developed. In accordance with the Plan sludge was pumped-out and disposed, aerator was repaired and some other actions were taken. The Action plan includes a number of procedures which, if followed, will help to avoid such situations in the future. Estimated completion date: 30 September 2013. **Oct 13**: BS-2 not visited during the October 2013 site visit, but similar issues were identified at the OPF (see WATER.13) **27.08.14**: Improvement Action Plan provided for BS-2 STP operation in 2014-2015, updated by SEIC and GTT specialists based on actual results and decisions. **04.09.14**: Action closed	681837 - CLOSED 4/9/14
WATER.10	Blue	**Closed**	Oct13 (PA-A)	Aqueous discharges	0000-S-90-04-O-0255-00-E Appendix 6	While reviewing HSE documentation on board the platform, the PA-A offshore installation manager (OIM) could not locate the MARPOL certificates for Molikpaq, including several mandatory pollution prevention certificates.	**Action**: Sakhalin Energy to provide evidence of MARPOL certificates Finding closed as MARPOL requirement is no more applicable to offshore installations	
WATER.11	Low Amber	**Open**	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.	**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. **October 2014:** 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.	757355

Ref[11]	Rank[12]	Status	Date	Topic	HSESAP Ref.	Finding	Action Progress Review	Action#
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.	**Action**: 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. **SE Action**: Contact with Vendor to investigate the reasons of exceedance and ways forward. **Oct 2014:** STP now meet MARPOL standards for BOD (data provided to support this). However, phenols and ammonia remain above permit requirements. Recommend 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 (see also WATER.04 above).	757350

Ref[11]	Rank[12]	Status	Date	Topic	HSESAP Ref.	Finding	Action Progress Review	Action#
WATER.13	Low Amber	**Closed**	Oct 13 (OPF)	Effluent quality at OPF	0000-S-90-04-O- 0255-00-E Appendix 4	2013 discharge monitoring data for the STPs identified permit discharge concentration exceedances against Russian Permit levels in relation to Nitrate and Biological Oxygen Demand (BOD). Compliance sampling for the STPs was limited to a single sample. A single set of results may not be representative of the overall system performance.	**Action**: ENVIRON recommends that an amended sampling strategy be devised for sampling the effluent discharged from the STPs. Such a strategy may include the use of equipment such as composite samplers, which reduce the significance of individual results, which may not be representative of overall system performance. **SE Action**: OPF Environmental Engineer with support from C-HSE to develop and implement STP samples strategy to follow up. **26.05.14**: Action taken: 1. The unit HACH (for express analysis) and required reagents were ordered and approved. Purchase Order #26637181 (email provided) 2. STP samples strategy was develop in terms of Technical Control Of Operation Of The Treatment Facilities with support C-HSE (documents provided). The implementation of the defined strategy will start as soon as the ordered materials are on site. **16.06.14**: ENVIRON considers action closed with regards nitrates but not BOD, and enquires whether consideration has been given to frequency and method of BOD sampling **12.08.14**: SE highlights the difficulties in using BOD as a parameter to monitor performance of the STP. **12.09.14**: It is agreed that there are difficulties in undertaking BOD sampling offshore for the reasons described in both SE response and ENVIRON's original response. However, monitoring of BOD is nonetheless required under RF requirements and the HSESAP in order to confirm compliance with relevant discharge limits. It appears that elevated BOD occurred due to issues with the STP operation. Can it be confirmed that the STP operation has now been improved and monitored BOD levels are now within required discharge limits? To be discussed during site visit. **01.10.2014** SEIC provided confirmation that the STP operation had been improved and monitored BOD levels are now within required discharge limits. **26.10.2014** Request to close the action based on evidence provided was received from SEIC. **18.11.2014** ENVIRON confirmed closure of finding	757342 - CLOSED on 18/11/2014

Ref[11]	Rank[12]	Status	Date	Topic	HSESAP Ref.	Finding	Action Progress Review	Action#
WATER.14	Low Amber	**Closed**	Oct-13 (PA-A)	Effluent quality	0000-S-90-04-O-0018-00-E Appendix 5	Drip trays were not provided for all oil/chemical drum storage on the PA-A platform deck. *(The IEC notes that the relevant standard in the HSESAP, which is included in the Soil & Groundwater section of the HSESAP, needs to be reviewed for its applicability to offshore platforms)*	**Action**: Provide secondary containment for all drums on the PA-A platform. (See also WATER.06) **Feb 14:** Evidence (photos) provided to ENVIRON confirming the elimination of non-conformance. Drip trays and chemical storage are subject to the daily platform checks that are done by Platform Supervisors on daily basis.	CLOSED 11/02/14
WATER.15	Low Amber	**New**	Oct-14	Sewage treatment	GIIP	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 leads to increased risk of leak to the environment.	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.	

Ref[11]	Rank[12]	Status	Date	Topic	HSESAP Ref.	Finding	Action Progress Review	Action#
WATER.16	Low Amber	**New**	Oct-14	Water treatment at LNG	Water Use Standard Comparison Specification	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 monitoring programme. Any specific parameters/issues will be discussed with ENVIRON on a case by case basis. Sakhalin Energy also proposes to review and update the HSESAP Water Use Standard Comparison Specification in May 2015.		
WASTE MANAGEMENT								
WASTE.16	Blue	**Open**	Oct-11 (LNG audit)	Waste Management	0000-S-90-04-O-0258-00-E Appendix 7	Clause 5c of the Waste Minimisation, Diversion and Disposal Specification, which is part of the Waste Management Standard, requires certain wastes (including plastic and paper) to be diverted to recycling where practicable. Waste paper and waste plastic is segregated at source for recycling. Sakhalin Energy has not yet signed contracts with recycling companies so this material is currently mixed with general waste before off-site disposal. However, it	**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. **Oct 13**: No update **Oct 14:** Plastic compacts have been purchased at the LNG site to aid waste segregation for plastic recycling.	618503

Ref[11]	Rank[12]	Status	Date	Topic	HSESAP Ref.	Finding	Action Progress Review	Action#
						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.		
WASTE.17	High Amber	**Closed (moot)**	Oct-13	Landfill Operation	HSESAP Waste management Standard	A number of significant concerns are identified in the third party operation of the Nogliki landfill including: • Lack of daily cover • Overflowing leachate pond on the cell used for Sakhalin Energy waste • Gas bubble formed under the leachate pond on the municipal waste cell • Lack of fencing around the facility to prevent windblown waste from the site • Lack of monitoring from groundwater wells	Action: ENVIRON recommends that: • Sakhalin Energy implements the following immediate initiatives: o Reduce the amount of non-hazardous waste sent to the Nogliki landfill (see below for further details) o Liaise with ENL to undertake a joint inspection of the landfill and work together to apply pressure on the landfill operator to improve its management practices. • If improvements to the operation of the site cannot be achieved then Sakhalin Energy should develop alternative waste strategies to avoid future use of the Nogliki landfill (see WASTE.18 for further details). SE Action: Provide advice through a 3rd party review (in the form of a short report) to the Oblast regarding improvements to be made at the Nogliki landfill. **14.10.2014** Report provided to the Oblast (see finding's folder). **18.11.2014** ENVIRON confirmed closure of finding (as moot) as Nogliki landfill will not be used after 18 Nov 2014.	757360 - CLOSED on 18/11/2014

Ref[11]	Rank[12]	Status	Date	Topic	HSESAP Ref.	Finding	Action Progress Review	Action#
WASTE.18	High Amber	**Closed**	Oct-13	Landfill Operation	HSESAP Waste management Standard	The remaining capacity at the existing non-hazardous landfills used by Sakhalin Energy is reducing. Sakhalin Energy recognises the significance of this issue and is developing medium and long term strategy to resolve the issue. However, we note that the urgency to define and implement these strategies is increasing by a number of factors including the declining standard of management at the Nogliki landfill and also the planning construction phase for the OPF Compression Project that will generate large volumes of waste.	**Action:** Add option of waste transportation (classes 4-5 SDW) from SEIC northern sites to Smirnykh landfill. **Action:** Add option of incineration of wastes generated by OPF Construction to respective Contract. **31.08.14: #757362**: Evidence provided showing Contract awarded to GUP "Otkhody". **16.09.14**: Superseded following telecon. The status of the operating licence at Smirnykh precludes the fulfilment of action #757362. **Oct 14:** Suggest closed finding and supersede by new finding WASTE.20 and WASTE.21	757362 - CLOSED 12/9/14
WASTE.19	Low Amber	**Closed**	Oct 13 (OPF Audit)	Waste Management	0000-S-90-04-O-0258-00-E Appendix 9	The clinical waste incineration facility used by ISOS has not been inspected by Sakhalin Energy.	**Action**: Sakhalin Energy includes an audit of medical waste management as part of Level 3 Contractor (AEA International Sakhalin) HSE audit to insure compliance with HSESAP **17.04.14**: The facility (Incinerator station of ECOSERVICE) was audited as part of Contractors HSE audit (Level 3) in November 2013. Please see Audit report attached which revealed no nonconformities related to incineration facility. SE provided the Contractor's license to deal with waste. Below is the information (link) from the manufacturer for the type of equipment ИН-50 that ECOSERVICE company is using (in Russian). http://turmalin.ru/ **22.04.14**: Closed	757336 - CLOSED 22/04/14

Ref[11]	Rank[12]	Status	Date	Topic	HSESAP Ref.	Finding	Action Progress Review	Action#
WASTE.20	High Amber	**New**	Oct-14	Waste Management	HSESAP Waste management Standard	Urgent actions required as revised waste strategy in light of loss of access to Nogliki and Smirnyhk 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): o o Develop a contingency plan for transfer of waste to the mainland, including: - Identification and audit of potential waste disposal facilities - A waste transport strategy - Identification of waste contractors (transport and disposal)		

Ref[11]	Rank[12]	Status	Date	Topic	HSESAP Ref.	Finding	Action Progress Review	Action#
WASTE.21	High Amber	**New**	Oct-14	Waste Management	HSESAP Waste management Standard	Medium term actions as revised waste strategy in light of loss of access to Nogliki and Smirnyhk 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): - Undertake a detailed waste generation assessment for the OPF Compression project to: o Understand the volume and types of waste to feed into waste strategy o Consider waste minimisation opportunities as a priority - Start geotechnical studies into OPF site to assess its suitability for the construction of waste facilities and the associated design implications	Sakhalin Energy has informed ENVIRON (after the October 2014 site visit) that it has reviewed available data and has 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.	
SOIL AND GROUNDWATER								
S&GW.08	Low Amber	**New**	01/10/2014 (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.		
S&GW.09	Low Amber	**New**	01/10/2014 (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		

Ref[11]	Rank[12]	Status	Date	Topic	HSESAP Ref.	Finding	Action Progress Review	Action#
						over the site rainwater drain near the LNG site temporary non-hazardous waste storage area (see Photo 23). 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)		
S&GW.10	Low Amber	**New**	01/10/2014 (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		

Ref[11]	Rank[12]	Status	Date	Topic	HSESAP Ref.	Finding	Action Progress Review	Action#
LAND MANAGEMENT								
LAND.09	High Amber	**Closed**	01/09/2007 (Table 6-4 Item 6.24)	Land management – temporary equipment/ bridges	0000-S-90-04-O-0254-00-E Appendix 8	Remove equipment bridges as soon as possible after permanent seeding.	**23.04.10**: Sakhalin Energy reported that 15 temporary bridges are planned to be removed. Construction was still ongoing for 5 access roads. A survey is planned to identify and evaluate remaining temporary bridges. **10.06.10**: As per LAND.12, the Orkunie River bridge will be modified to be able to contain any spillage on bridge surface and thereby protect the river from pollution. Survey must be conducted to identify what is required to make it permanent. Appropriate authority approvals to be obtained as required. **Action**: Complete additional survey of temporary bridges. Identify bridges to be removed, and requirements for bridge upgrade where applicable. Provide updated plan for temporary bridge removal and permanent bridge upgrade. **Action**: Provide to Lenders six-monthly updates on the status of implementation of the plan for removal/upgrade of temporary bridges. Finding remains open until all temporary bridges are satisfactorily removed/upgraded. **Sept12**: Update - this action is still ongoing **Oct 13**: No further updates received from the Company; action ongoing. **Dec13**: Reportedly there are no more temporary bridges, only permanent bridges that have been retained for operations purposes. ENVIRON has requested evidence from Loan Compliance so Finding may be closed.	467691 - CLOSED 15/12/10 467693 - CLOSED 16/12/10 467972 - CLOSED 14/02/11 467973 - CLOSED 19/8/11
LAND.16	Low Amber	**Open**	Oct-11	Land management – reinstatement of sandy and steep slopes	0000-S-90-04-O-0254-00-E Appendix 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 improved have been identified by the IEC in the October 2011 Site Visit report and these should be actioned by Sakhalin Energy.	**Action:** Incorporate IEC recommendations on biological reinstatement improvements into RoW plans. **Action**: Develop an Action Plan for sandy and steep slope revegetation. **Sept 2012**: Action 612568 for 2012 closed. New action(s) to be opened for 2013 season. **Oct 13**: General improvements in re-vegetation were identified but continued further efforts are still required. **Oct 14**: General improvements in re-vegetation were identified but continued further efforts are still required.	612568 - CLOSED Sept 12

Ref[11]	Rank[12]	Status	Date	Topic	HSESAP Ref.	Finding	Action Progress Review	Action#
LAND.17	High Amber	**Open**	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.	**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. **Sept 2012**: 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. **Oct 13**: The continued presence of tree saplings along the RoW is such that it is now becoming a significant compliance issue. There is a need for urgent control measures in order to meet RF legal requirements and to bring this issue under control. ENVIRON recommends that Sakhalin Energy re-evaluates and reconsiders the methods that are currently in use for long term effectiveness and also their impact on existing biological reinstatement. Alternative means of tree eradication should be reviewed and may include pulling of roots for smaller samplings (as opposed to simply cutting above the roots) and ring-barking for larger trees. **Finding Ranking raised to High Amber.** **Action #757375**: Conduct an assessment of existing methodology of tree growth control \cutting. 29.06.2014 - Methodology provided. However, ENVIRON had a number of comments outlined in the email from 21.07.2014. Responses on comments provided by SEIC on 23.07.2014. The action still remains open. **Action #757376**: SEIC to continue the tree cutting program with increased SoW. Special plots on RoW will be indicated for applying 2 cutting methodologies as indicated by ENVIRON to compare with traditional cutting. **29.06.14:** #757375: Sakhalin Energy has conducted the assessment of the tree cutting methodology (evidence provided). Also provided confirmation message from Pipelines Department specialist on the application of the provided methodology. SE proposes to close this action and to track progress during the Monitoring Visit 2014.	612571 - CLOSED Sept 12 757375 757376

Ref[11]	Rank[12]	Status	Date	Topic	HSESAP Ref.	Finding	Action Progress Review	Action#
LAND.17 (Continued)							**22.07.14:** ENVIRON comments: 1. It is not entirely clear to us how the final strategy identified differs significantly from the current approach (and therefore how it will be more effective at getting on top of the tree issue) 2. It is good that removal of roots has been considered. We agree that this may cause spatially extensive soil disturbance for tree species with wide root systems (such as willow). However, we do not think that this is sufficient argument to dismiss root removal all together. Instead we recommend that root removal should still be considered for trees with small root systems (e.g. small saplings and certain tree species) 3. Has any consideration been given to ring-barking for killing larger trees? **23.07.14:** SE advises that assessment identified correction to existing approach and confirms that the approach is ALARP. "Removal of roots" and other options (like chemical usage) have been considered, however this is not practical/applicable in Sakhalin conditions. Also, RF law does not specify the methods how trees shall be removed. This issue to be discussed in more detail during the monitoring visit as the pipelines team is now also in the process of identifying cost-efficiency of different methods (man-hours, costs, efficiency) **Oct 14:** Marked increase in number of trees identified during site visit and increased efforts to control are required.	

Ref[11]	Rank[12]	Status	Date	Topic	HSESAP Ref.	Finding	Action Progress Review	Action#
LAND.19	Low Amber	**Open**	Oct-13	Wetlands	RemAP	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 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.	**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. **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. **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. In order to remediate the identified problems at this area, three things should be done: • The ditch and berm should be filled in and removed; • At least five culverts should be installed under the existing track at approximately 200m separation; and • Consideration should be given to moving Wetland transect #22 further south closer to KP231 to look at the effects of the mitigation. Alternatively, when that transect is being surveyed, an additional level of survey should be completed in the KP231 area.	757372

Ref[11]	Rank[12]	Status	Date	Topic	HSESAP Ref.	Finding	Action Progress Review	Action#
BIODIVERSITY								
BIODIV.08	Low Amber	**Open**	Oct-13	Environmental monitoring	Local monitoring programmes, HSE-MO	Sakhalin-3 activities are likely to affect areas of Sakhalin Energy's environmental monitoring programme around the OPF.	**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. **SE Action**: Sakhalin Energy to review Local monitoring Programmes **09.06.14**: As far as Sakhalin Energy is currently in the process of revision and approval with ENVIRON of the Onshore Local monitoring Strategy Reports we would like to ask for the closure of this specific action related to OPF. **22.06.14**: The Action can be closed, but the Finding stays open until the review of the strategies with ENVIRON is complete.	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 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	**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. **17.07.12**: During last 6 months Sakhalin Energy has conducted 2 meetings with authorities: 1. In the beginning of 2012 the meeting was held with local MChS 2. In March 2012 Alexander Gutnik took part in the meeting organized by the Deputy Minister of MChS in Moscow. On both meetings the possibility of dispersants application and in-situ burning was brought up by Sakhalin Energy. The more or less favourable opinion was expressed by MChS representatives and the instruction was given to work out these options inside MChS organization. However, no any clear consent or instructions were provided to Sakhalin Energy. Nevertheless, Sakhalin Energy's OSRPs stipulate dispersants application, NEBA has been conducted for certain areas. There is a mechanism existing for getting approval of the authorities in case of the necessity of dispersants application, but the decision can be taken (and will be taken) inside the Company	594741 - CLOSED 7/8/12 Expect six-monthly updates in half-yearly HSESAP reports.

Ref[11]	Rank[12]	Status	Date	Topic	HSESAP Ref.	Finding	Action Progress Review	Action#
						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.	if required. Sakhalin Energy propose to close this action and provide updates in the HSESAP half-year reports. **07.08.12**: Update and reporting proposal accepted, action #594741 closed. **04.04.13**: No updates have been made in the half-yearly reports, so Sakhalin Energy provides the following update: It is required to develop legal background (law documentation) in order to be able to implement non-mechanical technologies in Russia. We have already started to develop the documentation that will ease obtaining Russian Authorities permission for non-mechanical technologies. **17.07.13**: During the July 2013 Tier 3 OSR exercise, Sakhalin Energy tested its ability to prepare the necessary background information and forward an application to Russian Authorities for the use of dispersants on an offshore spill. Approval 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 Russian Authority partners closer to allowing non-mechanical response options for large offshore spill events.	
OSR.28	Low Amber	**Closed**	Oct-13	Review of OSRPs	0000-S-90-04-O-0014-00-E Appendix 15	The provision of English versions of the revised six onshore and offshore OSRPs and associated summaries for review by ENVIRON/PCCI is well overdue	Acknowledged by Sakhalin Energy	No Fountain action required

Ref[11]	Rank[12]	Status	Date	Topic	HSESAP Ref.	Finding	Action Progress Review	Action#
OSR.29	Blue	**Closed**	Oct-13	Storage of ancillary equipment	0000-S-90-04-O-0014-00-E Appendix 15	Packing of ancillary equipment within transportable containers needs to be more rugged to ensure that it can be transported in the field without damage to either the packaging or the equipment itself	**05.05.14**: SE Response: The containers mentioned are not the containers by which the equipment will be transported if required. These containers are used only for storage of ancillary equipment. Transportation of 20' containers by trucks to remote sites is not considered feasible due to poor road conditions. For that case SEIC has the "Ural" 4x4 off-road flat back trucks at Nogliki PMD for cargo transfer to the field. Also major part of the booms, anchors and chains with buoys from containers will be loaded onboard of vessels and transported to the field. There are 5 feet containers special for transportation by helicopter with certified slings, as well. Also last year SEIC purchased the new Ford 350 Heavy Duty for boat trailers towing, and two trailers special for this Ford were repaired, passed technical maintenance and returned to Nogliki PMD. Other option to deliver the ancillary equipment such as booms was exercised in 2012 by using the crew boats deck. **13.06.14**: PCCI accepts that this equipment is not stored in the containers in which it will be transported, but notes that valuable time can be lost in deployment if considerable repacking is necessary. Wherever equipment can be stored and packaged in a fashion that lends itself for rapid deployment, this is better. PCCI notes that this is not a deficiency, but a recommendation for future consideration.	No Fountain action required
OSR.30	Blue	**Closed**	Oct-13	Oil spill response	0000-S-90-04-O-0014-00-E Appendix 15	Accessibility to remote spill locations in winter/ice conditions may be an issue. Improvement in the transportability of equipment via snow machines and such should be investigated	**05.05.14**: Snow machines are prohibited for use by the SEIC rules in respect of Safety (ROAD TRANSPORT HSE MANAGEMENT STANDARD 0000-S-90-04-O-0005-00-E Appendix 6, Revision 06). To reach the remote sites SEIC use the other all terrain vehicles "Taiga" and "Moose". **13.06.14**: PCCI accepts this response and acknowledges that the tracked all terrain vehicles "Tiaga" and "Moose" are highly capable assets for wintertime personnel and equipment deployment.	No Fountain action required

Ref[11]	Rank[12]	Status	Date	Topic	HSESAP Ref.	Finding	Action Progress Review	Action#
OSR.31	Blue	**Closed**	Oct-13	Oil spill response	0000-S-90-04-O-0014-00-E Appendix 15	Engineering for snow/ice mobility on land should be investigated. The use of additional sleds, putting loads on runners and reducing reliance on forklifts in field, etc. would provide better capability to get equipment to remote winter locations	**05.05.14**: SEIC has the sleds at each PMDs. After the equipment is delivered to the remote site location (as described earlier) the necessary equipment is offloaded to the sleds and delivered further to the required site (pictures provided). **13.06.14**: PCCI accepts this response.	No Fountain action required
OSR.32	Blue	**Closed**	Oct-13	Oil spill response	0000-S-90-04-O-0014-00-E Appendix 15	Spill scenario planning for non-routine times and conditions, i.e. holidays such as the first two weeks of January, spring melt/break-up, pipeline release into peat bog, winter storms, etc. should be continued and implemented into the training program	**05.05.14**: SE Response: With regard to first two weeks of January and other holidays it is not considered as non-routine times as our duty roster and response personnel are in full preparedness 24/7. With regard to unsafe conditions mentioned like snowstorms, spring melt/break up and peat bog location, Sakhalin Energy sets the safety of personnel as first priority and if the conditions are unsafe no response will be provided until the conditions allow to respond as stipulated by the procedures. Where appropriate only monitoring will be performed. Reasons for restricting deployment of OSR equipment may include: • Aerial/marine vessels and crews are at risk due to adverse weather or sea state, or deployment of equipment will result in unacceptable safety risks to the vessel crew. • Response equipment will not be effective due to high sea states, presence of ice, or other weather conditions. • Oil is a thin sheen which cannot be recovered; the oil is expected to and is observed to be rapidly breaking up. In accordance with Safety considerations there are risks either from the oil itself or from environmental conditions (weather, access, hazards, etc.). For offshore response in wintertime and during conditions when sea ice is prevalent, it may be that no active response strategies are usable. In this case, Monitoring and Tracking should be identified as the only viable “no response” option to simply monitoring and observing a slick. **13.06.14:** It is acceptable that the duty roster is fully staffed and prepared on weekends and holidays for response. Regarding conducting exercises during adverse weather, Sakhalin Energy simply categorizes all types of adverse weather as a safety hazard -	594754 - CLOSED on 14.08.2014

Ref[11]	Rank[12]	Status	Date	Topic	HSESAP Ref.	Finding	Action Progress Review	Action#
							even the presence of ice on water - and says response is not possible due to safety, only tracking and monitoring of oil. If this were true, then it appears that Sakhalin Energy cannot respond to an oil spill 8 - 9 months of the year, since some of the adverse conditions they site will be present. Best practice, as exhibited by organizations such as Alaska Clean Seas on the North Slope, will conduct limited response, even on the water, during all kinds of adverse weather or conditions except for gale force winds, high seas states, or arctic white out storm events. PCCI believes Sakhalin Energy should take a close look at what conditions they can safely respond in, and set these criteria; i.e. no response when wind speeds on the water exceed XX FPS, or when sea state exceeds XX beaufort scale, or when visibility is less than XX meters, or when temperatures are lower than XX degrees, etc...Sakhalin Energy has said that when sea ice is prevalent, they will only monitor and track oil. This is a very broad statement and again, it means that during most of the year, Sakhalin Energy will not actively respond to a spill on the water because there will be ice conditions during much of the year. PCCI believes more work is required in Sakhalin Energy reviewing and identifying the times and conditions in which they can and will respond. PCCI considers this Audit Finding deficient against international good practice amongst the oil companies and oil spill cooperatives operating in the arctic. **08.07.2014** SEIC provided detailed explanation and arguments asking for closure of this finding. On **14.08.2014** PCCI approved that, based on the explanation provided, the finding can be closed.	
OSR.33	Blue	**Closed**	Oct-13	OSR Training	0000-S-90-04-O-0014-00-E Appendix 15	Training (both operational and incident management) should be conducted before exercises	**05.05.14**: For 2015 Sakhalin Energy will consider the opportunity to organize the process in a following way: • Incident Management Trainings for duty roster personnel • Desk-top exercises • Field Deployment exercises • Complex exercise **13.06.14**: PCCI considers Sakhalin Energy's proposed approach for 2015 as best practice.	No Fountain action required

Ref[11]	Rank[12]	Status	Date	Topic	HSESAP Ref.	Finding	Action Progress Review	Action#
OSR.34	Blue	**Closed**	Oct-13	Oil spill response	0000-S-90-04-O-0014-00-E Appendix 15	Planning processes for spills contained by secondary containment at the OPF (i.e. no tank drains) should be refined and included in the response training and exercise program. In addition, methods for period checking of the integrity of bunds should be developed	**05.05.14**: SE requests clarification of "refining the planning process"? **13.06.14**: PCCI intended to say that the spill volume surrounding the large condensate tanks at OPC represents a large volume is some or much of the tank is lost. This spill will initially be contained by secondary containment. The quicker response personnel can safely remove the oil from secondary containment and get it into some other temporary containment, the reduced changes of this oil then getting outside of secondary containment and/or impacting wildlife or the environment. PCCI was simply suggesting that Sakhalin Energy have in its OPF OSRP plans and procedures for responding to large spills within secondary containment, and that they occasionally exercise this spill scenario. Note this is considered a recommendation to enhance readiness, and not a deficiency. PCCI's clarifications acknowledged by Sakhalin Energy.	No Fountain action required
OSR.35	Blue	**Closed**	Oct-13	Oil spill response	0000-S-90-04-O-0014-00-E Appendix 15	It is recommended that Sakhalin Energy develops a list of available helicopters for possible use to access the remote locations of the pipeline	**05.05.14**: SE Response: Logistics Aviation team has the list of all available helicopters in Sakhalin region. **13.06.14**: Accepted	No Fountain action required
OSR.36	Blue	**Open**	Oct-13	Storage of OSR equipment	0000-S-90-04-O-0014-00-E Appendix 15	Sakhalin Energy should ensure all inventory lists for OSR equipment are also provided in English	**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. **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 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.	No Fountain action required
OSR.37	Blue	**Closed**	Oct-13	Oil spill response	0000-S-90-04-O-0014-00-E Appendix 15	While PCCI acknowledges that Sakhalin Energy plans an extensive review of its OSR equipment inventory for offshore response, an in-depth evaluation of their primary response strategy of deploying	**05.05.14**: SE Response: Weir skimmers Lamor LWS 500 and LWS 800 are more suitable for spills within landlocked areas with zero waves, because when the weather conditions slightly change the use of this equipment becomes inefficient due to limited capacities of collection reservoirs available on board the ships. This type of skimmer has high performance. However, most of the collected	No Fountain action required

Ref[11]	Rank[12]	Status	Date	Topic	HSESAP Ref.	Finding	Action Progress Review	Action#
						smaller, weir-based skimmers for off-shore discharges is also recommended	volume of oil-water emulsion is water (up to 90%). The Stand-by OSR vessels got the order use the oleophilic skimmers against of weir types, already. **13.06.14**: PCCI notes that Sakhalin Energy's response is that the Company has already done some evaluation and made some changes for their offshore skimmer selection. PCCI notes that much has happened and will be changing with Sakhalin's pre-positioned equipment inventories and offshore response strategies. By separate correspondence, PCCI will comment on Sakhalin Energy's proposed direction with their recent equipment evaluation and specification/procurement recommendations.	
OSR.38	Low Amber	**Closed**	Oct-11	Spilled oil recovery	0000-S-90-04-O-0014-00-E Appendix 15	Sakhalin Energy's entire oil spill risk profile needs to be re-evaluated for their year round operations, and their response equipment and techniques should undergo a major review. Capability to retain large volumes of recovered oil/water mixture needs to be put in place. Sakhalin Energy also needs to work directly with Russian environmental authorities to put measures in place that allow for the decanting of recovered water during response operations (overarching #594504) >> Evaluation of oil spill risk profile (#594753) >> Evaluate capability to transfer recovered oil to platform, and evaluate possibility to decant recovered water during response operations (#594754)	**March 2013: #594754:** Sakhalin Energy confirmed it now has the following option of storage of recovered oil – Use oil tankers chartered for Sakhalin-2 project. Shipowner confirmed readiness to assist on OSR. Company can progress to arrange the rest technical issues. **11.02.14**: As the part of "2013 July Piltun-Astokh OSR tier 3 Exercise" a planning event was exercised to recover liquid materials from response vessels into the platform and re-inject them. The other option for recovered oil storage was worked out - to use an empty shuttle-tanker. **17.02.14**: PCCI considers that no evidence has been provided to date with regard to updating the risk assessment and evaluating Sakhalin Energy's response capabilities against this risk and hazard analysis. PCCI had made this comment because it appears that much of Sakhalin Energy's offshore oil spill response equipment has been downsized or scaled back from the initial inventories observed back in the initial phases of the project. PCCI's understanding from both the in-briefs and the outbrief received after the offshore drill last year was that Sakhalin Energy was going to conduct a comprehensive review of all of the equipment this past December to determine if it was appropriate for the operating risks. The results of this review were expected to be ready early this year, although nothing has been received so far. Did Sakhalin Energy conduct this review? If so, what were the results?	594754 CLOSED - 22/06/14

Ref[11]	Rank[12]	Status	Date	Topic	HSESAP Ref.	Finding	Action Progress Review	Action#
							28.03.14: Results of review provided to ENVIRON **22.06.14**: Action #594754 closed, although Finding remains open. ENVIRON suggests that PCCI and Sakhalin Energy discuss future equipment needs in more detail. **07.07.14**: April 14 Lunskoye Response in ice exercise report provided to ENVIRON. **04.09.14**: Conference call between SE, PCCI and ENVIRON to discuss equipment needs and risk profile. **11.09.14**: May 14 Prigorodnoye exercise report provided to ENVIRON	

Ref[11]	Rank[12]	Status	Date	Topic	HSESAP Ref.	Finding	Action Progress Review	Action#
HEALTH AND SAFETY								
H&S.10	Blue	**Closed**	Oct 11 (LNG audit)	Storage of Hazardous Materials	0000-S-90-04-O-0270-00-E Appendix 9	Clause 6 of the Chemicals Management Specification, forming part of the Occupational Health and Hygiene Standard requires that "a full Material Safety Data Sheet (MSDS), in English and Russian shall be made available for all chemicals and oil products used at the site". The following non-compliances were noted in the chemical storage area: · No MSDS (in English or Russian) was available in the C103 store for the Hydranal Coulomat AD reagent. An electronic copy of the MSDS was later produced for inspection in the office but the MSDS file in C103 was incomplete. · In C104 and C106 the MSDS for chemicals stored were only available in Russian.	**Action:** Ensure that dual language MSDS documentation is provided in each chemical store. Periodically check the documentation, for example during audits and inspections. **18.09.12**: (response in conjunction with H&S.11) The revealed non-compliances have been eliminated: 1. All materials stored inside the chemical storages have MSDS in a special folder kept near the relevant materials. 2. The responsible person for chemical storage has been appointed (Popov Rostislav) who regularly conducts inspection of the labelling of the materials in accordance with SAP system. 3. In case the vendor provide MSDS in one language the Act of non-compliance is issued and the missing documents are provided. **01.10.12**: LNG-specific action closed, but finding remains open to cover other MSDS issues arising from the Sept 12 monitoring visit. **Oct 13**: During the PA-A Platform audit, dual language MSDS were found to accompany the majority of observed chemicals. However, there were a number of chemicals in the main chemical store which were accompanied by only English or Russian MSDS. At OPF, need to ensure that all hazardous wastes are appropriately labelled in both Russian and English. **Action #618857**: Undertake an asset-wide review of the compliance with HSESAP requirements (Chemicals Management Specification) with regard to MSDS availability and adequate labelling. **13.02.14**: A specially created commission (including HSE specialist, warehouse specialists and managers) conducts regular checks on the assets: inspections- quarterly, HSE audit-1 annually. Details of recent inspections/audits at assets was provided. In case any deficiencies are revealed the appropriate actions are implemented. In view that still isolated instances of missing MSDS occur, SEIC proposes to close the action and address the issue on a case by case basis. **19.03.14**: Based on the evidence provided, ENVIRON confirms closure of the Finding.	612859 - CLOSED 1/10/12 618857 - CLOSED Finding CLOSED 19/03/14

Ref[11]	Rank[12]	Status	Date	Topic	HSESAP Ref.	Finding	Action Progress Review	Action#
H&S.11	Blue	**Closed**	Oct 11 (LNG audit)	Storage of Hazardous Materials	0000-S-90-04-O-0270-00-E Appendix 9	Clause 6a of the Chemicals Management Specification, forming part of the Occupational Health and Hygiene Standard requires that "chemicals are appropriately labelled". The following deficiencies were identified: · A drum of liquid in C104 is stored in a box with an incorrect stock code (the MSDS with the corresponding stock code - 1000941689 - was for High-density polyethylene (HDPE)). · Two metal drums of liquid were noted in C107 that had labels in Japanese only. · Five 205 litre drums and three smaller drums were noted outside C107. The drums were full but the contents unknown as there were no labels.	**Action**: Ensure that all chemical containers have adequate labelling. Periodically check labels, for example during audits and inspections. **18.09.12**: (response in conjunction with H&S.10) The revealed non-compliances have been eliminated: 1. All materials stored inside the chemical storages have MSDS in a special folder kept near the relevant materials. 2. The responsible person for chemical storage has been appointed (Popov Rostislav) who regularly conducts inspection of the labelling of the materials in accordance with SAP system. 3. In case the vendor provide MSDS in one language the Act of non-compliance is issued and the missing documents are provided. **01.10.12**: LNG-specific action closed, but finding remains open to cover other labelling issues arising from the Sept 12 monitoring visit. **Oct 13**: During the OPF 2013 Audit, wastes in the waste storage areas viewed by ENVIRON were found to be well labelled, however a small selection of drums located in the Temporary Waste Transit Area were not found to be labelled. Additionally, two unlabelled 25 litre containers of unknown liquid were stored without secondary containment at the LNG water treatment plant. **Action #618857**: Undertake an asset-wide review of the compliance with HSESAP requirements (Chemicals Management Specification) with regard to MSDS availability and adequate labelling. **13.02.14**: A specially created commission (including HSE specialist, warehouse specialists and managers) conducts regular checks on the assets: inspections- quarterly, HSE audit-1 annually. Details of recent inspections/audits at assets was provided. In case any deficiencies are revealed the appropriate actions are implemented. In view that still isolated instances of missing MSDS occur, SEIC proposes to close the action and address the issue on a case by case basis. **19.03.14**: Based on the evidence provided, ENVIRON confirms closure of the Finding. **Action: # 757344:** Update Waste Handling & Chemical Storage Inspection check list. Action taken: Additional control section for waste labelling added to OPF Waste Handling and Chemical Storage Inspection check list. Please find attached file for the reference (item 1.3.3). **22.04.14:** Based on the evidence provided, ENVIRON confirms closure of the Finding. **Action # 757357**: Provide secondary containment at the LNG water treatment plant.	612861 - CLOSED 1/10/12 618857 - CLOSED Finding CLOSED 19/03/14 757344 - CLOSED 22/04/2014 757357 - CLOSED 13/05/2014

Ref[11]	Rank[12]	Status	Date	Topic	HSESAP Ref.	Finding	Action Progress Review	Action#
H&S.12	High Amber	**Closed**	Oct 13 (PA-A audit)	Health & Safety	0000-S-90-04-O-0270-00-E Appendix 3	The auditor observed a contractor being allowed onto the helicopter without producing evidence of a valid offshore medical certificate despite the Global Logistics Management System showing that one was not on file.	**Action**: To update Travelling Offshore Guidelines with the requirement to use GLMS system as a barrier for visiting offshore without valid FtW medical certificate **30.04.14**: Requirements for use of GLMS system have been added to Travelling Offshore Procedure. GLMS is used to control: • Availability of training certificates • Availability of medical certificates • Personnel movement by train • Use of immersion suits. GLMS workflow related to travelling offshore is described in Appendix C of the Procedure, provided. **13.05.14**: Finding closed	757380 - CLOSED 13/05/14
H&S.13	High Amber	**Closed**	Oct 13 (PA-A audit)	Health & Safety	0000-S-90-04-O-0270-00-E Appendix 3	The auditor was not subjected to 'mandatory' alcohol testing before boarding the helicopter to PA-A at Nogliki airport.	**23.01.14**: The following actions were taken: 1. Prohibited items inspection consent form was revised. Record about alcohol testing results and signatures of the security guard and passenger were added (provided). 2. Inspection groups' employees were additionally instructed about mandatory control on alcohol testing passing of departing passengers and pre-flight inspections in view of effective process management. 3. Passengers are informed about conducted procedures: inspection, alcohol testing. **27.01.14**: Finding closed.	CLOSED 27/01/2014
H&S.14	Low Amber	**Closed**	Oct 13 (PA-A audit)	Health & Safety	0000-S-90-04-O-0270-00-E Appendix 9	The emergency exits from the chemical storage container were found to be locked.	**11.02.14**: The emergency exit has been unlocked and the warning was placed on the door to prevent the re-occurrence. Finding closed	CLOSED 11/02/2014

Ref[11]	Rank[12]	Status	Date	Topic	HSESAP Ref.	Finding	Action Progress Review	Action#
H&S.15	Low Amber	**New**	01/10/2014 (LNG site visit)	Health & safety (and ground contamination)	GIIP	While the provision of eye-wash facilities and spill kits was generally good at the 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		
H&S.16	Low Amber	**New**	01/10/2014 (LNG site visit)	Helath & Saftey (NORM)	GIIP	Sakhalin Energy to revise its NORM procedures. The revised procedures will be reviewed during the next site visit.		
SOCIAL								
SOC.07	Blue	**Closed**	Oct-13	Cultural Heritage	0000-S-90-01-O-0021-00-E Appendix 5	The specialized external cultural heritage contractor should be consulted as part of revising the scale and scope of the current monitoring programme. This should include identifying the objects that require less frequent monitoring due to their remote locations and distance from the Project's operating assets, and continuing monitoring of the features in close proximity of the roads, the pipeline and other facilities that may represent a risk.	**Action**: Revise all current objects of cultural heritage (OCH) with external experts for the purpose of integrating the most sensitive OCH in further monitoring and update Plan for Protection of Cultural Resources During Sakhalin II Operations respectively. **08.09.14**: "Plan for Protection of Cultural Heritage "Sakhalin-2" Operations" provided, addressing the finding with regard to the scope of the CH Monitoring programme. **09.09.14**: Action closed	757386 - CLOSED 09/09/14

Ref[11]	Rank[12]	Status	Date	Topic	HSESAP Ref.	Finding	Action Progress Review	Action#
SOC.08	Blue	**New**	Oct-14	Information Disclosure / Community Impacts	SP Standard Public Consultation and Information Disclosure (0000-S-90-01-O-0021-00-E Appendix 7, Revision 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".		
GENERAL								
GEN.05	Blue	**Closed**	Oct 13 (OPF Audit)	HSE Management Systems	0000-S-90-04-O-0015-00-E Appendix 1	During the course of the audit, it was identified that the OPF HSE team held the expectation that level 3 audits would be undertaken by the Corporate HSE team and no Level 3 audits had been scheduled by the OPF for 2013. Subsequent discussions with the Corporate HSE team identified that confirmed that Level 3 audits should be site managed self-assurance activities.	**Action**: Undertake audit level re-training for Sakhalin Energy OPF HSE staff and implement programme of OPF level 3 audits. **SE Action**: OPF own and drive Level 3 audit programme as part of annual HSE Plans. **09.06.14**: Level 3 Audits has been included in the HSE Plan for 2014, document provided. **22.06.14**: Item 10.9 in Section 5 of the plan is the step include Level 3 at the facility level (in this case the OPF). However item 10.16, seems to contradict this ("Amend corporate Audit programme so ownership of Level 3 Audits is with C-HSE / Moller, Johann SEIC-AZ."). SE to confirm which is correct and advise whether the Company has checked if the approach to Level 3 audits is consistent at all facilities. **23.06.14**: Currently, L3 Audits are owned by assets and functions as self-assurance activities. However, HSE Audit Procedure is under revision and it is proposed to influence L3 HSE Audits to a greater extent to a greater extent from C-HSE side in order to achieve improvement in the quality of L3 Audits. **23.06.14**: ENVIRON considers this a reasonable approach and the action can now be closed. It is suggested that C-HSE input to L3 audits is discussed during the October site visit	757346 - CLOSED 23/06/14

Ref[11]	Rank[12]	Status	Date	Topic	HSESAP Ref.	Finding	Action Progress Review	Action#
GEN.06	Blue	**Closed**	Oct 13 (OPF Audit)	HSE Management Systems		The structure of the Aspects Register generally meets the requirements of ISO14001. However, we identify a number of areas where the detail of register requires improvement in order that it identifies all environmental aspects and acts as an effective tool to help prioritise management controls and improvement initiatives. Examples of environmental aspects that are currently not fully addressed in the Aspects Register include: 1. Storage and management of fuel (only unrefined oil is considered) 2. Routine management of non-hazardous solid waste 3. Control of ozone depleting substances 4. Water abstraction/use 5. Energy consumption 6. Air emissions (re-evaluate risk rating given RF decree #7 on flaring	**Action**: Review and update Aspects Register The updated Register was approved by JH with a few minor comments: • H-07.004. The significance ranking for normal operation emissions from power generators is currently 'Slight effect'. Given the emissions for NOx in comparison to emission standards (see the OPF audit report), JH suggested that it would be more appropriate to raise this to minor or possibly moderate in order to ensure an ongoing focus. • H-08.001. JH was not sure what 'routing activity' means • H-17.003. Under the "Conditions", it is not just emergency conditions that can cause impacts. Routine waste management also leads to impacts through e.g. use landfills (available capacity, leachate etc.). In the "Recover and Mitigation" column, ENVIRON also suggested that reference was made to audits/inspections of third party waste disposal facilities (this is especially important given the known problems with the operation of the Nogliki landfill). • Other. Lighting impacts are only currently mentioned in relation to flaring. However, night-time illumination is required for the OPF and this too can lead to impact on fauna (e.g. birds) and this should be included in the register. Based on JH's recommendation, the rating for waste management was increased to C3 in their EAR. Confirmation received on 23.06.2014	CLOSED 19/02/14

Ref[11]	Rank[12]	Status	Date	Topic	HSESAP Ref.	Finding	Action Progress Review	Action#
GEN.07	Blue	**New**	01/10/2014 (LNG site visit)	HSE Auditng (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.		
GEN.08	Blue	**New**	01/10/2014 (LNG site visit)	HSE Auditng (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 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		

Ref[11]	Rank[12]	Status	Date	Topic	HSESAP Ref.	Finding	Action Progress Review	Action#
GEN.09	Blue	**New**	01/10/2014 (LNG site visit)	HSE Auditng (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		
GEN.10	Low Amber	**New**	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. b. Both system need to be fully recognised at both the asset and corporate HSE teams.		

Appendix 1: Site Visit Terms of Reference and Schedule

Appendix 2: Individual RoW Descriptions