SAKHALIN ENERGY COMMENTS ON SUMMARY OF RECOMMENDATIONS FROM *DOING IT RIGHT*

Public Participation (1-7)

Sakhalin Energy comment:

Sakhalin Energy is evaluating different forms of public participation for the Sakhalin II Project and among these it is giving consideration to the creation of a Citizens' Advisory Council along the lines of councils developed in Alaska and in the UK Shetland Islands. We will be guided by the findings of the current public consultation programme that is taking place on Sakhalin Island and beyond in choosing the most appropriate vehicle for public participation – it will be driven primarily by the needs and wishes of the people of the Sakhalin communities in which we operate.

Environmental Impact Assessment & Monitoring (8-16)

Sakhalin Energy comment:

Sakhalin Energy has devoted considerable resources to developing impact assessments (social and health as well as environment) for the Sakhalin II Project. Public consultation has been underway since the Sakhalin II Project was launched in 1992.

Project impact assessments

A first Environmental Assessment was conducted as part of the project feasibility study in 1992. The results of this assessment were included in the report on Technical and Economic Substantiation for Investment (TEO-I) in accordance with Russian Federation legislation.

Detailed Environmental Risk Assessment was executed through an Environmental Hazards Identification process (ENVID), which is a Sakhalin Energy EIA-related tool designed to ensure close integration of environmental issues into the engineering design and planning stage or projects. In practice, the ENVID process entails a structured interactive meeting process (workshops) attended by internal and external environmental specialists and engineers, designers and planners. The ENVID process allows definition of the priority environmental issues to be taken into account during project implementation.

Between 1992-2002, a large number of detailed environmental surveys were executed in order to establish the environmental and socio-economic baselines and to highlight receptors sensitive to potential impacts. For further reference, the reports of these baseline surveys are annexed to the international EIA on CD.

An EIA for Phase I of the Project was completed in 1997 and a series of Public Hearings held on Sakhalin Island that same year. The so-called Phase I EIA was published in Russian and English versions and made available for public comment in public libraries around Sakhalin Island. Comments and questions made, together with Sakhalin Energy's response to these, were included in the finalised version of this EIA which was submitted to the Russian authorities, who subsequently approved it, as part of the TEOC process.

An EIA was carried out in 1999 for the proposed Pressure Maintenance Project, part of the Phase I development. The Russian version of this EIA was placed in public libraries around Sakhalin Island and made available for comment in line with Russian Federation regulations. This EIA also received approval from the Russian authorities.

In 2001, Sakhalin Energy prepared a Preliminary EIA for public consultation for Phase II of the Sakhalin II Project, which was published in November. Consultation included a series of statutory Public Hearings held in line with Russian Federation regulations and also involved international non-governmental organisations, the Russian authorities, shareholders and potential lenders to the project.

As part of the Russian Federation approval process, Sakhalin Energy prepared detailed, project facility specific Environmental Protection Books (EPBs), which formed part of the report on Technical and Economic Substantiation for Construction (TEO-C). As part of this detailed assessment work, detailed impact assessments including quantification of impacts through modelling and monitoring were executed. A summary of the individual assessments (per facility) and related EPBs was prepared in the form of a summary EIA (TEO-C EIA).

On the basis of the impact assessment efforts described above and the feedback received from the public consultation process, particularly with regard to the Preliminary EIA, Sakhalin Energy commissioned an international environmental consultancy, ERM, to carry out international-style EIA, compliant with World Bank guidelines, which was completed in January 2003.

The EIA is currently being translated into Russian, after which it will be made available for public consultation.

Environmental Monitoring

Sakhalin Energy has devoted considerable resources in an environmental surveying and monitoring programmes for both Phase I and II of the Sakhalin II Project. Since 1992, some US$20 million has been spent on surveying and monitoring. The key elements of the environmental monitoring programme are as follows:

- To assess the efficiency of mitigation programmes;
- To identify potential sources of adverse environmental impact on ecosystems;
- To acquire data on the state of ambient air, seawater, marine biota, onshore water bodies, soils, and flora and fauna, in areas potentially affected by the Project;
- To comply with agreed terms and conditions of natural resources use (control of emission and discharge levels, waste disposal limits, etc);
- To verify data predictions based on computation and modelling; and
- To provide information to environmental agencies.

In September 2002, the scope of the proposed environmental monitoring programme was provided to the relevant RF authorities, and is currently undergoing review by the expert governmental working groups (expertizas).

Pollution Prevention (17-22)

Seismic testing

Seismic data acquisition, if not properly executed, can affect species of cetaceans and pinnipeds. Sakhalin Energy has commissioned an EIA specifically related to the seismic testing it proposes to conduct for the Sakhalin II Phase II Project, which is at the Lunskoye oil and gas field. Although there is currently no requirement under Russian Federation environmental legislation to carry out an EIA for such offshore seismic surveys, Sakhalin Energy's own environmental policy requires an EIA to be carried out for all operations in potentially sensitive

areas, or areas where there are potentially sensitive receptors. The EIA was carried out by an international environmental consultant, ERM, who also conducted the Phase II international-style EIA (see above).

The EIA concluded that provided the recommended mitigation measures are applied, such as the ramp-up ("soft-start") of seismic testing – the use of a relatively soft warning signal - the physiological effects on baleen whales, toothed whales and pinnipeds are likely to be minor because of the known avoidance reactions of these species. Where impacts were predicted to be moderate, further mitigation measures will be applied to ensure that impacts are maintained as low as reasonably practicable (ALARP) levels.

Noise pollution

All Sakhalin Energy's activities during the construction and operation of Phase II will be carried out in accordance with the relevant RF legislation. With respect to noise pollution, there is no specific regulation relating to noise impacts on wildlife. However, activities will be carried out in accordance with regulation GN2.2.4/2.1.8.562-96: "Noise at workstations, in dwellings, public buildings and residential areas", and in accordance with international standards, guided by the principle that it should be as low as reasonably practicable.

Drill muds and cuttings

Drilling waste is a mixture of muds and cuttings. Muds are used to assist in the drilling of wells, acting as a lubricant and maintaining well pressure. Cuttings are fragments of rock generated by the drilling process. There are several methods of disposing of drilling waste, including onshore disposal, re-injection and overboard discharge.

During Phase I, Sakhalin Energy discharged a small amount of drill muds and cuttings in accordance with its Water Use Licence. Water-based muds and cuttings have either no or very low toxicity. The results of a three-year monitoring programme carried out by Sakhalin Energy, the parameters of which were agreed with the regulatory authorities prior to its initiation, show no discernible environmental impact.

For Phase II, Sakhalin Energy is aiming for a 100% re-injection of drilling waste. The equipment to re-inject muds and cuttings is already in place on the Molikpaq platform (Phase I) and has been successfully tested. The exceptions to this target will be the water-based drill cuttings generated in the first well and the conductor string (or top hole section) for each subsequent well at the Piltun Astokhskoye field, and the water-based drill cuttings generated in the first and subsequent wells (up to a maximum of four, depending on operational and technical feasibility) and the conductor string for each subsequent well at the Lunskoye field. There will be no disposal whatsoever of oil-based muds. Sakhalin Energy will comply with RF legislation in all aspects of its drilling activities.

Oil Spill Prevention (22-52)

Statement 22*: The start and end dates of the tanker loading season at the offshore terminal should be decided by the Russian Authorities.*

Sakhalin Energy comment:

This recommendation is better directed towards the Russian authorities.

Note: given variations in the weather, the start and end dates of the tanker loading season vary, depending on the ice thickness. Our weather and ice windows for start up and end of season are based on the recommendations of a group of 10 eminent ice scientists from Russia and Canada who work on site throughout the periods when ice is present, giving us comprehensive

safety reports on the ice condition. Start and end dates are agreed in consultation with the Russian Federation authorities.

Statement 23: *Weather and visibility limits for operating at the Vityaz Marine Terminal and other offshore loading facilities should be made compulsory.*

Sakhalin Energy comment:

This is already implemented by Sakhalin Energy. Such limits are part of Sakhalin Energy's working arrangements. We have strain gauges with recorders and alarms fitted to the Salm hawser and the export tanker hawser which give us a good indication of when the weather has deteriorated to the extent that disconnect is required. This is reinforced by the experience and knowledge of the Master of the Floating Storage and Offtake (FSO) tanker 'Okha'.

Statement 24: *The Russian Government should review operating procedures to minimize the risk of collisions.*

Sakhalin Energy comment:

This recommendation is better directed towards the Russian authorities.

Sakhalin Energy has alarm systems fitted using Differential Global Positioning Systems (DGPS) between the Single Anchor Leg Mooring (SALM) and FSO and a new portable system between the FSO and Export Tanker. These systems tell us when ships are getting close to the SALM and when the export tanker is getting close to the 'Okha'. In addition, when the export tanker is connected, there is a large tug connected at the aft end of the Okha doing a static tow to ensure that the hawsers do not go slack and that the tankers stay in line. There is therefore minimal risk of collision between the units. Also, when the export tanker makes its approach in there is a tug attached to the aft end to assist it in rapid slow down should its engines fail to go astern when ordered. This tug has a bollard pull of 155 tonnes whilst the majority of tankers have bitts that can only take a strain of around 80 tonnes.

Statement 25: *The Vityaz marine terminal should monitor all traffic passing within 10 miles*

Sakhalin Energy comment:

This consideration does not apply to Sakhalin Energy's operations. We have a no entry zone for the field complex, which has been issued as a navigation warning to all ships. Traffic proceeding up coast would be outside the 12 mile limit away from the Molikpaq and FSO. The Vityaz complex is not in a normal traffic route.

Statement 26: *All components of the Vityaz Marine Terminal should be inspected regularly by Russian governmental authorities.*

Sakhalin Energy comment:

This recommendation is better directed towards the Russian authorities.

Note: The Vityaz complex is inspected under the direction of GGTN. The equipment is inspected annually by the American Bureau of Shipping (ABS). The ABS is one of the three leading Classification Societies in the world, with vast international inspection experience. The ABS remits its reports and data to GGTN, which accepts such data. Where specific pieces of equipment need to be inspected following modification or change, GGTN carries out an inspection. The pipelines, SALM and Molikpaq underwater components were all inspected in 2002 using a remotely operated underwater vehicle and all of the inspections were filmed. The hawsers were new, as they are at the start of every season. We have installed a load monitoring programme for the hawsers which calculates the cyclic loading for each strain that is placed on the hawser and calculates the residual strength left in the hawser. Breaking test analysis carried out on hawsers that have been removed from service have shown that the programme is conservative in its estimates of residual strength.

Statement 27: *The operators of the Vityaz Marine Terminal should follow operating procedures in their manual when clearing loading hoses of oil to minimise the risk of pollution.*

Sakhalin Energy comment:

Sakhalin Energy follows agreed and approved operating procedures at all times.

Since the *Doing It Right* report was written Sakhalin Energy has installed a new hose reel onboard the 'Okha' on the aft end. This means that the hose is lifted out of the water after each export and so any leaks from the pipeline would fall into the drip tray under the line rather than into the sea. The hose is also not now exposed to potential damage from some floating ice at the beginning and end of the season.

Statement 28*: Shuttle tanker draft limits should be revised downwards.*

Sakhalin Energy comment:

This comment was based on the premise that Sakhalin Energy would be using offtake tankers of up to 250,000 Dwt, which is incorrect. Such tankers are not commercially viable in the current operating environment. The 'Okha' can only load about 1 million barrels. The drafts of the tankers that Sakhalin Energy uses are around 15 metres and the depth of water that it operates in is about 30 metres, with the minimum in the field at around 25 metres. The normal practice in shipping is to allow 10% of the draft for underwater clearance – a policy which is followed in the North Sea and in the Malacca Straits, among other places.

Statement 29: *The continuous presence of independent technical and environmental inspectors at the offshore oil and gas fields is essential to verify compliance with Russian Law.*

Sakhalin Energy comment:

An inspector from the regulatory authorities was permanently based on the Vityaz complex during the production seasons of 1999 and 2000. During 2001, the authorities took the decision to stop basing an inspector permanently on site. However, inspectors continue to visit the Vityaz complex whenever they wish to. Inspection visits of the Vityaz Complex in 2002 included inspectors from Sakryvbod, the Marine Inspectorate and the local department of the MNR.

Statement 30: *The Russian government's marine surveyors should thoroughly inspect shuttle tankers.*

Sakhalin Energy comment:

This recommendation is better directed towards the Russian authorities.

Statement 31: *The Russian Authorities should also agree, with the sellers of the oil all the procedures for pre-mooring, pre-loading and pre-departure checks.*

Sakhalin Energy comment:

This recommendation is better directed towards the Russian authorities.

Note: The procedures used at the Vityaz terminal have been developed in line with those recommended by the Oil Companies International Marine Forum (OCIMF), which is recognised internationally by governments as upholding the highest industry standards. Its recommendations have formed the basis of most current international tanker legislation.
Statement 32: *A comprehensive vessel traffic risk assessment of the entire Sakhalin coast is required.*

Sakhalin Energy comment:

This recommendation is better directed towards the Russian authorities.

Note: There is very little vessel traffic along the Sakhalin coast.

Statement 33: *The identity, position, course and speed of all oil tankers and other large vessels around the coast of Sakhalin and the Kuril Islands should be continuously monitored by the Russian authorities.*

Sakhalin Energy comment:

This recommendation is better directed towards the Russian authorities.

For background information: this will become easier in a few years time when the mandatory provision for transponders for vessels enters into force. At the moment the Russian Federation government is unable to force tankers to report their positions when on the high seas and outside of Russian territorial waters (i.e. more than 12 nautical miles off the coast), since this would violate their rights of free passage. What could be achieved would be to set up a voluntary reporting scheme, such as Ausrep, which asks vessels to voluntarily report in when within 200 nautical miles of the coast. However, this would need to be set up and its implementation funded by the Government, and since commercial vessels would not report in to an organisation set up and funded by the oil companies.

Statement 34: *Where possible, Russian military radar and other surveillance assets should be employed to assist the civilian authorities in monitoring tanker traffic.*

Sakhalin Energy comment:

This recommendation is better directed towards the Russian authorities.

Statement 35: *The State marine rescue service should include a tanker traffic advisory notice in their regular weather broadcasts.*

Sakhalin Energy comment:

This recommendation is better directed towards the Russian authorities.

Statement 36: *We suggest establishing a lighted cardinal buoy to mark the 8.2m shoal at 52deg31min North and 143 Deg 40Min West.*

Sakhalin Energy comment:

If required this would be the responsibility of the appropriate Russian authority or agency.

Statement 37*: Highest Standards of Training Certification and Watchkeeping (STCW) must be enforced.*

Sakhalin Energy comment:

This is already implemented by Sakhalin Energy. As part of its vetting process, Sakhalin Energy ensures that vessels apply fully the provisions of STCW '78. As of January 31 2002, the provisions of STCW 1995 are applied and this is enforced by Sakhalin Energy in the vetting process.

Statement 38: *One person Bridge operation should be banned in Russian waters.*

Sakhalin Energy comment:

This is already implemented by Sakhalin Energy. One-person bridge operation was banned at the International Maritime Organisation in the late 1990s and would not be allowed for any vessel vetted and approved for use by Sakhalin Energy as it would be breaking international law.

For further information, the following describes the ship vetting process used by Shell/Sakhalin Energy.

- The tanker is nominated to Sakhalin Energy.
- Its physical dimensions are checked to ensure that it will be suitable for loading at Vityaz by Marine Superintendent.
- The vessels past history is checked within SE to see if it has been acceptable in the past.
- The vessel is put forward to Shell International Trading and Shipping Company for vetting. The vetting process includes:
    - Checking the last Shell inspection of the vessel - which must be within the last 12 months for it to be acceptable.
    - If the vessel is considered suitable for Shell use, all of the reports by other inspecting companies from the time of the last Shell visit that are held in the SIRE system database are withdrawn and checked to see that there has been no dropping of standards since the Shell inspection which would cause the vessel to be downgraded to unsuitable.
    - There is a team of naval architects going through the structural history of all of the world's tankers, going through the highest risk VLCCs first. Owners that refuse to supply the historical repair records of their vessel have their vessels made unsuitable. Looking through the repair history also makes large numbers of vessels unsuitable.

- The vessels classification society is checked and to be suitable for SE business it must be a member of IACS (The International Association of Classification Societies) IACS comprises the top 10 or 12 Class societies and has strict rules for membership.
- The vessels flag is checked to see whether it is one which is known to be less stringent in its inspection regime.
- The vessels age is checked and the vessels owner.
- Ship owners are required, for a time charter, to undergo a management review, whereby a team of Shell's Master Mariners, Chief Engineers and Naval Architects goes to the owners office for 1 or 2 days and carries out an audit of the way that they run their ships. For a time charter ship this is a fixed requirement.
- For a time charter inspection, prior to taking the vessel on hire, a team of a Master Mariner, Naval Architect and Chief Engineer go and inspect the vessel in detail including all of the ships ballast spaces. This can take 2 days to complete.
- The port State control databases world-wide are checked to ensure that the vessel has not been detained for deficiencies and the Lloyd's casualty database is also checked to see if the vessel has been in an accident.

- If all of the above checks are satisfactory the voyage and cargo that the vessel is to be chartered or used for is checked using a risk assessment database of the known marine/meteorological hazards for that route including shallow water, piracy, typhoons, time of year, port restrictions etc. to ensure that the vessel is fit and suitable for the voyage.

Only when all of this is done is the vessel accepted for a loading at the Vityaz terminal.

Statement 39: *All personnel involved in marine traffic should understand orders in the international maritime language (English)*

Sakhalin Energy comment:

This is already implemented by Sakhalin Energy. It is a requirement under international law that all bridge watch-keepers should speak English. When a vessel is inspected under the SIRE system there is a section that records the competency of the various bridge officers in spoken English. If the master's English is listed as poor the vessel would not pass the inspection unless the owners agreed to replace him.

Statement 40: *Russian Border Guards should do random alcohol screening of shuttle tanker crews.*

Sakhalin Energy comment:

This recommendation is better directed towards the Russian authorities.

For background information: This recommendation is already implemented by Sakhalin Energy. Random drug and alcohol tests are carried out on shuttle tankers. Shell, whose standards apply to the Sakhalin II Project, has a policy in place for the use of drugs and alcohol, which follows the Oil Companies International Marine Forum (OCIMF) policy. This includes a requirement for random testing onboard. During the inspection of the vessel the alcohol test log is inspected to ensure that random testing is indeed being carried out. Random testing by the border guards would not be legal unless there was a special reason for it, such as an accident or other incident.

Statement 41: *Shipping lanes and areas to be avoided should be marked on nautical charts and enforced for tankers trading to Sakhalin.*

Sakhalin Energy comment:

This recommendation is better directed towards the Russian authorities.

For background information: Sakhalin Energy could supply the necessary information. However, the establishment of such shipping lanes would need to be proposed by the Russian Federation Government to the IMO in a paper. They would then need to be agreed at a meeting of the Marine Environmental Protection Committee. They would have to be adopted by the committee to make them legally enforceable

Statement 42: *The guiding principle when establishing how far offshore a tanker should stay until altering course for her approach to an FSO should be the number of hours it would take for an ocean salvage tug to reach a disabled tanker.*

Sakhalin Energy comment:

This principle is already applied by Sakhalin Energy. The two tugs that are maintained at Vityaz have a very high bollard pull such that they would be able to react effectively with regards to a drifting tanker. Being based permanently on site, their rapid response capability rules out the need for the consideration above.

Statement 43: *Double hulled tankers should be exempted from some of the escort provisions and also allowed a discount on fees charged for VTS and Pollution Prevention.*

Sakhalin Energy comment:

At present there is no Vessel Traffic System (VTS) so no charges for this are levied. Sakhalin Energy pays for pollution prevention, and also provides a standby pollution vessel throughout the production season. Sakhalin Energy requires shipment of oil under sales contracts to be made in double-hulled vessels unless no double-hulled vessels are available in the market. Sakhalin Energy has a time-chartered double-hulled vessel, the Primorye, which carried out about 60% of all crude oil liftings in the 2002 production season.

Statement 44: *The Russian Federation should draw up a schedule for phasing in double hulls at its tanker ports and offshore terminals by the year 2015, significantly in advance of the IMO Schedule.*

Sakhalin Energy comment:

This recommendation is better directed towards the Russian authorities.

Statement 45: *Meanwhile all single hulled tankers should be required to load in a hydrostatically balanced manner to minimize spillage in the event of a rupture.*

Sakhalin Energy comment:

The issue is not relevant as Sakhalin Energy is requesting only double-hulled vessels. (NB: This is already a requirement under IMO for vessels between 25 and 30 years old – after 30 they

have to be scrapped. Sakhalin Energy would not envisage tonnage of this age being accepted at the Vityaz terminal under any circumstances.)

Statement 46: *Escort tugs should accompany all large tankers navigating the La Perouse Strait or other constricted waterways.*

Sakhalin Energy comment:

This would be impossible to enforce as straits between two countries are international waters and vessels have free rights of passage through them under international law. As in the case of the English Channel, it might be possible to set up voluntary channel pilots that shipowners could use, but usage could not be made compulsory. Similarly, the Russian or Japanese government could station a salvage tug at La Perouse as the UK government has done around the coast of the UK, but this would have to be at no charge to shipping.

Statement 47*: To assist disabled tankers a second Neftegas class tug is required on station in the oil and gas fields, also to act as an escort vessel.*

Sakhalin Energy comment:

This recommendation is already Sakhalin Energy policy. Sakhalin Energy already has two tugs with capacity significantly higher than the Neftegas vessel proposed. Escort towing is not required as inbound and outbound vessels are in clear water. One of the Smit tugs is connected up to the stern of the inbound tanker while about 1.5 miles off in order to make a controlled approach.

Statement 48: *There must be an* agreed procedure for notifying shore authorities when a problem arises on a tanker.

Sakhalin Energy comment:

This recommendation is already implemented by Sakhalin Energy. The IMO publishes annually a list of coastal State contacts specifically for this purpose. Whenever a ship gets into trouble she would use the contact number on this list. Every ship is required to have this list in their Shipboard Oil Pollution Emergency Response Plan (SOPEP) and this item is checked during the Ship Inspection Report Programme (SIRE) inspection to ensure that it is up to date.

Statement 49: *Tugs and tankers must regularly test hook up a towline in various weather conditions.*

Sakhalin Energy comment:

This recommendation is already Sakhalin Energy policy. This is done every time a tanker arrives, as stated earlier.

Statement 50: *Oily waste disposal facilities at all Sakhalin ports should be reviewed.*

Sakhalin Energy comment:

This is beyond Sakhalin Energy's terms of reference, and is better directed towards the Russian authorities. However the Company is interested to have full information on such facilities.

Oil Spill Response (53-73)

Statement 53: *The Sakhalin Regional Spill Plan must be updated and integrated into a wider north-west Pacific regional plan as soon as possible.*

Sakhalin Energy comment:

The Sakhalin Energy Vityaz (Phase I) Oil Spill Response Plan is currently being revised and will enter into the consultation and approval process with the RF authorities in the near future. The Plan engages relevant Japanese authorities (e.g. the Coastguard) in spill response, as and when appropriate. Given prevailing hydrometeorological conditions and lack of proximity to other states' waters, there is little reason to extend the geographical remit of the plan beyond its current scope.

Statement 54: *There is a need to inform and involve local councillors and officials*

Sakhalin Energy comment:

The Phase I and II oil spill response plans provide details of the required notification and response procedure for the different level of spill scenarios. These procedures have the support of the RF authorities, and engage relevant local officials as appropriate.

Statement 55: *Each tanker calling at Sakhalin must be required to file its own oil spill response plan.*

Sakhalin Energy comment:

Every tanker has a standardised SOPEP and operates in accordance with the International Convention for the Prevention of Pollution from Ships (MARPOL) requirements.

Statement 56: *More oil spill centres are required.*

Sakhalin Energy comment:

Under current Phase I operations, Sakhalin Energy maintains oil spill response equipment aboard a dedicated oil spill response vessel that is maintained within the vicinity of the platform and FSO. In addition, some equipment is also stored at Nogliki. Sakhalin Energy has contracts with Ecoshelf, a specialist oil spill response organisation based in Nogliki, which has a large inventory of oil spill response equipment, and with East Asia Response Ltd and Oil Spill Response Ltd, international oil spill response organisations based in Singapore and Southampton, respectively. Ecoshelf regularly organises and engages in oil spill response exercises, and implements oil spill response training, which involves both Sakhalin Energy employees and volunteers from the General Public. Sakhalin Energy also has access to the equipment maintained by the Petroleum Association of Japan.

During Phase II, a number of additional oil spill response centres (or depots) are planned. These will be located at strategic points throughout the Phase II operational area: on the

platforms; along the pipeline route; onshore at Prigorodnoye; and Sakhalin Energy vessels (such as the tanker-guiding tugs and multi-purpose vessels) will also be equipped with oil spill response equipment.

Statement 57: *Stocks of Oil spill response equipment and materials, including workboats should be increased.*

Sakhalin Energy comment:

See above. A full list of the oil spill response equipment inventory provided under Phase I and proposed under Phase II is provided in the Corporate Oil Spill Response Masterplan.

Statement 58: We suggest immediate improvement of access roads to the lagoons.

Sakhalin Energy comment:

Given the remoteness of the area, road access is not necessarily the quickest route to tackle a spill within lagoon areas. Sakhalin Energy has identified areas at lagoon mouths and other sensitive locations where oil spill response equipment and personnel would be dropped off by helicopter and boats. The use of hovercraft or Ekranoplanes would not be appropriate under the prevailing climatic and oceanic conditions within the area.

It should also be noted that the upgrading of roads to improve access to remote, environmentally sensitive areas, and potentially increasing accessibility, could lead to greater adverse consequences for the environment.

Statement 59: *We recommend the early establishment of a marine service base and emergency equipment/oil spill response depot at Nabil bay. Breakwaters on the northern banks of the bay entrances could help deflect oil blowing alongshore with the prevailing NNE wind.*

Sakhalin Energy comment:

As stated previously, oil response equipment will be deposited in appropriate locations as required. Sakhalin Energy does not support the idea of construction breakwaters around the mouth of the Bay for the purpose of deflecting oil. It is well known that these structures can cause the local hydrology to change, leading to serious erosion problems further along the coast, which could create the need for costly long-term coastal management measures to counteract their influence.

Statement 60: *It should be publicly admitted that there is little chance of stopping a tier two or three spill polluting the beach.*

Sakhalin Energy comment:

Sakhalin Energy's oil spill response plan is based on the prioritisation of protection to sensitive habitats, such as lagoons, bays and salt-marsh areas. The decision to protect beaches will depend on whether those beaches are considered to be sensitive, and whether a lack of protection will lead to a long-term adverse impact on those areas. In general, beaches that are exposed to high-energy environments, as many are on Sakhalin, are relatively devoid of fauna and flora, and are relatively rapid to recover from oil pollution. Indeed, clean-up response actions in such areas can often have a greater impact than leaving the area to recover naturally.

All decisions on protection of areas and response strategies will adopt the principle of Net Environmental Benefit Analysis.

Statement 61: *The suppliers of heavy lift helicopters should be pre-contracted to deal with a tier three spill, which would require at least eight such aircraft.*

Sakhalin Energy comment:

As mentioned, Sakhalin Energy has contracts with several national and international oil spill response organisations, which supplement its own oil spill response equipment and know-how. In the event that heavy lift helicopters should be required, these would be made available through these contracts.

Statement 62: *Nogliki airport needs to be upgraded to take larger cargo planes.*

Sakhalin Energy comment:

Nogliki airport is large enough to accommodate Hercules aircraft. The Sakhalin I operator, ExxonNeftegas, is currently managing the joint Sakhalin I-Sakhalin II upgrade of the airport to enable instrument-landing of planes, i.e. during adverse weather conditions such as low visibility.

Statement 63: *All control centres and forward bases should be equipped with electricity generators and telecommunications powered independently on site.*

Sakhalin Energy comment:

Sakhalin Energy's crisis and emergency response procedures, which take into account oil spill response, adequately cover this issue.

Statement 64: *Spill response authorities need to provide phones or radios for all locally based people involved in oil spill response.*

Sakhalin Energy comment:

Sakhalin Energy has a well thought out and effective crisis and emergency response procedure, which governs oil spill response, and which is regularly tested together with local authorities and other relevant personnel (e.g. Ecoshelf, the oil spill response contractor based in Nogliki). It is a dangerous premise to involve untrained people in the handling of oil because of the safety hazards. Where local people are engaged in oil spill clean-up (and there are a number of volunteers who are already engaged in Sakhalin Energy's oil spill response training programme), they would be under the supervision of a trained responder who would have the required communications facilities.

Statement 65*: More local residents with specialised knowledge of the areas at risk need to be consulted.*

Sakhalin Energy comment:

This recommendation is already reflected in Sakhalin Energy's policy. Sakhalin residents will be consulted during the preparation of detailed Geographical Information System-based sensitivity maps in 2003.

Statement 66: *The SakhBASU offshore oil spill response base at Korsakov urgently needs massive augmentation and proper storage*

Sakhalin Energy comment:

This recommendation is better directed towards the Russian authorities.

Statement 67: *There should be field trials in the use of dispersants with Sakhalin oil and a clear policy on when and where they can be used.*

Sakhalin Energy comment:

Laboratory tests have been already undertaken to determine the amenability of Vityaz crude to dispersants. These tests demonstrated that the oil is amenable. Sakhalin Energy is aware that the use of dispersants in Russian waters is subject to Government approvals and that the approval of three regulatory agencies is required before SEIC will use dispersants. It is only the approved products that can be considered for the use by Sakhalin Energy. Based on analyses of the various successes and failures of international oil spill response practices, Sakhalin Energy considers that, if well-managed and used in appropriate conditions and areas, dispersants can be useful tools to rapidly aid effective clean up of oil spills. SEIC's approach to dispersants' use is that dispersants can only be used to protect sensitive resources and in cases where and when there is a clear "net environmental benefit". SEIC is currently undertaking further studies to better determine circumstances under which there is a clear benefit in the use of dispersants and where there clearly is not. This will be developed in consultation with Government Agencies.

This list below is FYI references to the RF regulatory norms where dispersants are being dealt with at the various degree of detail.

- Instructions of Liquidation of Oil Sleeks with the Use of Dispersants. (This regulatory document is not available via the database. It has been referenced by the Order #233 of the MinTopEnergo dated 05.11.95 "List of Normative Acts to be Approved by the MinTopEnergo").
- Order of GosComRybolovstvo of 28.04.99 "Concerning Fishery Norms".
- Order of MinZdrav of 07.02.99 #MU 2.1.7.730-99 "Hygienic Assessment of Soil in Populated Areas"
- Order of GosStandard of 20.12.96 and RoHydroMet of 15.12.96 #RD52.18.595-96 "Allowed Methods of Measurements in Environmental Monitoring"
- Order of MinPrirody of 02.08.94 "Instructions of Identification of the Source of Oil Pollution"
- Regulations for Use of Dispersants OM-6, OM-84, and Corexit 9527, RD 31.04.24-36", and more recently by Sakhalin Governor Decree 193.

Statement 68: *It is essential to hold regular surprise exercises to test the ability to respond to a large spill. These should include practical liaison with Japanese authorities.*

Sakhalin Energy comment:

Well-planned exercises are more effective with set scenarios and objectives, and do more to develop capacity than surprise exercises. A full tier three exercise is required under Shell rules, which apply to Sakhalin Energy, every three years.

Statement 69: *Between surprise drills there should be regular desktop drills and field trials.*

Sakhalin Energy comment:

This recommendation is already company practice. Shell requires tier one drills at least once per year and tier two every two years. Sakhalin Energy exercises more frequently than this minimum schedule.

Legal Liability

Statement 70*: The two terminals onshore Sakhalin, at Moskalvo and Pogranichnoye, and the Tartar Straits ub-se pipeline owner, should contract with Ecoshelf or a similar organisation for spill response cover, if they have not already done so.*

Sakhalin Energy comment:

Not relevant to Sakhalin Energy.

Statement 71*: Many improvements can be made without new Russian or International laws simply by inserting clauses in commercial contracts between the sellers and buyers of oil.*

Sakhalin Energy comment:

An example of the application of this principle is Sakhalin Energy's requirement that oil export has to be transported in double-hulled tankers except for in exceptional circumstances where there are no double-hulled vessels available. Sakhalin Energy has a thorough tanker-vetting programme, which follows Shell guidance. In addition, Sakhalin Energy provides an environmental information package to vessels before they arrive in the Sea of Okhotsk, advising them of the necessary wildlife precautions.

Statement 72: *It is imperative that the liability provisions for oil spills off Sakhalin be reviewed by an independent team of environmental attorneys, with recommendations to raise the liability limits to the maximum potential cost of a worst case oil spill.*

Sakhalin Energy comment:

The International Convention on Civil Liability for Oil Pollution Damage - 1992 CLC (CLC) and the International Fund for Compensation for Oil Pollution Damage - 1992 Fund Convention (Fund), which govern tanker liability limits, have just raised the maximum liability limits. These are considered ample to cover the largest case spill clean up in Sakhalin.

Statement 73: *We strongly recommend that the Russian Federation should take a lead in this matter and insist that all tankers and offshore installations carry adequate insurance to cover all the potential liabilities arising from a spill.*

Sakhalin Energy comment:

This recommendation is better directed towards the Russian authorities. For background information: This cover is already carried with Protection and Indemnity (P&I) insurance on the vessels standing at US$1 billion for oil pollution damage.

Statement 74: *We strongly recommend that the Russian Federation should take a lead in this matter and insist that all tankers and offshore installations carry adequate insurance to cover all the potential liabilities arising from a spill.*

Statement 75: *Russia should also be able to assess and collect punitive damages from polluters found to be grossly negligent.*

Statement 76: *A Prevention, Response & Oversight (PRO) Fund should be established.*

Sakhalin Energy comment:

Statements 74 to 76 are not relevant to Sakhalin Energy.

Statement 77: *A pipeline-to-shore oil transport system appears preferable to offshore loading, on both economic and environmental grounds.*

Sakhalin Energy comment:

Sakhalin Energy's Phase II project involves a pipeline-to-shore system.

Statement 78: *Our final recommendation is for an immediate, full and public environmental and safety audit of the onshore oil and gas developments in Sakhalin, which we believe to be at least as serious a threat to the island's water, land and air as the proposed offshore projects.*

Sakhalin Energy comment:

This recommendation is better directed towards the Russian authorities.