



Sakhalin Energy Investment Company Ltd.

Position Paper

Protection of the Western Gray Whale

May 2003

Content

| | |
|--|----------|
| 1 INTRODUCTION | 2 |
| 2 THE WESTERN GRAY WHALE | 2 |
| 2.1 Perceived Threats To The Western Gray Whale Population..... | 3 |
| 3 APPROACH TO WESTERN GRAY WHALE PROTECTION | 4 |
| 3.1 Surveys And Monitoring..... | 4 |
| 3.2 Western Gray Whale International Monitoring Programme | 5 |
| 4 IMPACT ASSESSMENTS | 5 |
| 5 WESTERN GRAY WHALE PROTECTION PROGRAMME | 7 |
| 6 CONCLUSION..... | 7 |



1 INTRODUCTION

Sakhalin Energy Investment Company Limited (Sakhalin Energy) is developing oil and gas reserves in the Sea of Okhotsk off the northeast coast of Sakhalin Island in the Russian Far East. The project is being developed under a Production Sharing Agreement between the Government of the Russian Federation, the Sakhalin Oblast, and Sakhalin Energy.

Sakhalin-II is a phased development. Phase 1, an oil-only development, went into production in 1999, built around the Molikpaq offshore production platform. It produces oil for approximately six months of the year during the ice-free period. Phase 2 is an integrated oil and gas development that will allow year-round oil and gas production, and includes two additional offshore platforms, offshore and onshore pipelines to transport the extracted hydrocarbons, and onshore processing and exporting facilities. Production from Phase 2 of the Sakhalin II Project is planned to commence in 2007.

For part of the year, from approximately late May until November, the northeast coast of the Sea of Okhotsk is also home to the western gray whale (*Eschrichtius robustus*), which is listed as endangered in Russia and as critically endangered by the International Union for the Conservation of Nature (IUCN). Sakhalin Energy is committed to ensuring that its current and planned activities do not adversely affect the whale population. It has devoted significant resources to the development and implementation of surveys and monitoring programmes to improve understanding on the whale population, and has established protection plans to ensure that its marine activities do not interfere with the population.

This position paper provides an overview of Sakhalin Energy's commitment to the protection of the western gray whale, and illustrates the activities that the Company supports in pursuit of this commitment.

2 THE WESTERN GRAY WHALE

There are two existing populations of gray whales in the Pacific Ocean: the Eastern North Pacific or California-Chukotka population (Californian gray whale) and the Western North Pacific or Okhotsk-Korean population (western gray whale).



The western gray whale is a migratory species with a habitat that is thought to extend from the Sea of Okhotsk in Russia through the Sea of Japan to the South China Sea. Despite significant research efforts and a substantial body of literature on the species, there are still gaps in knowledge on the full geographical range, migration routes, ecology, and population dynamics of the western gray whale.

The northern part of the Sea of Okhotsk is covered with ice during the winter and spring seasons. When the ice begins to break up, typically during late May, the western gray whales start to arrive at their feeding grounds in the shallow coastal waters in the north east of Sakhalin Island. Gray whale studies conducted in that area since 1997 have shown that the whales demonstrate site fidelity and return to feed there on an annual basis. With the return of the ice off the northeast coast, typically around November, the whales begin to migrate out of the area. Although not yet certain, it is thought that they migrate to the South China Sea to breed and calve during the northern winter.

Until recently, it was generally understood that the whales fed exclusively within shallow water less than 20m deep in the water adjacent to Piltun Bay, and scattered along the coast, rather than in aggregate groups. However, gray whale surveys conducted during 2001 observed groups of whales feeding in deeper water (35-40m deep) southeast of Chaivo Bay. In 2002, aerial surveys noted that both the Chaivo Bay and Piltun Bay feeding areas were used by large numbers of whales.

2.1 Perceived threats to the western gray whale population

In the early 1970s, the western gray whale was believed extinct as a result of decades of whaling; however, subsequent sightings indicated small groups within the Sea of Okhotsk. Following a recent concerted monitoring effort in the feeding area offshore Sakhalin Island, the population is currently thought to consist of approximately 100 individuals, and may contain less than 50 reproductive adults. Due to these observations, and because it is geographically distinct from the eastern gray whale population, the International Union for Conservation of Nature (IUCN) has listed the western gray whale population as critically endangered. It is worth noting, however, that the entire geographical range of the whale population has not been surveyed and therefore the actual total population figure is unknown and may be higher than current



figures suggest. This topic is the subject of an international western gray whale monitoring programme that is under development by Sakhalin Energy.

There is no evidence to suggest Sakhalin Energy's activities are having an adverse impact on the western gray whale population. Prior to 2000, a number of whales exhibited weight loss (known as 'skinny' whales), but this phenomenon was not unique to the western gray whale as members of the eastern gray whale population were also observed to have lost weight during the same period. Since 2000, the number of 'skinny' whales observed has dramatically reduced. The potential threats to the western gray whale, which are threats to all whale species, include vessel collision risk; marine pollution; poorly managed coastal development; illegal whaling; fishing net entanglement; disease; natural variations in the marine environment and food supply; and genetic determinants within the population. Whales are also vulnerable to hearing damage if they are exposed to underwater noise levels higher than 180 decibels.

3 APPROACH TO WESTERN GRAY WHALE PROTECTION

Sakhalin Energy is committed to ensuring that its activities continue to have no adverse impact on the western gray whale, and has commissioned research and monitoring programmes and impact assessments to fill the gaps in knowledge on the whale population and so ensure appropriate measures are adopted to avoid impact. These efforts are described in more detail in this section.

3.1 Surveys and monitoring

Surveys on the western gray whale have been carried out in Russian Federation waters on an intermittent basis for at least 20 years. Most recently, between 1997-2002, an extensive survey and monitoring programme on the western gray whale was carried out with funds provided by the oil and gas development companies operating on the Sakhalin Shelf, including Sakhalin Energy and Exxon-Neftegas Limited (ENL - the offshore operator of the Sakhalin I development). Survey and monitoring activities have included:

- aerial and vessel-based surveys of western gray whale distribution;
- behavioural studies;



- photo-identification of individual western gray whales;
- studies of the distribution and composition of western gray whale prey; and
- acoustic measurements of ambient and industry-generated underwater noise.

This programme will continue in 2003 and the final results from that effort are planned for delivery in mid 2004. Sakhalin Energy and ENL have committed approximately USD1.5 million to fund the 2003 research programme in Russian Federation waters.

Western gray whale monitoring activities will be continued during the construction and operational phases of the Sakhalin II project, which will further the knowledge on the population and enable an assessment of the effectiveness of the mitigation measures in place.

3.2 Western Gray Whale International Monitoring Programme

The Western Gray Whale International Monitoring Programme is an initiative that is currently being advanced by Sakhalin Energy, and will engage the marine mammal scientific community in its development. Sakhalin Energy has committed several million US dollars over five years to this programme, with the intent to expand the geographical coverage of the gray whale surveying and monitoring activities to include the territorial and international waters around the eastern Russian Federation, Japan, People's Democratic Republic of China, Republic of Korea, and Taiwan.

The objective of the programme is to broaden knowledge on the western gray whale population, particularly its migration patterns, behavioural ecology, population dynamics, breeding patterns, and the environmental threats facing the population throughout its geographical range. It is anticipated that the programme will involve marine mammal researchers within all five countries. Programme output will be subject to independent specialist review, and where appropriate will contribute to the global repository of information on the whale population.

4 IMPACT ASSESSMENTS

Incorporating international good practice and in compliance with Russian Federation regulations, Sakhalin Energy has carried out a number of Environmental Impact



Assessments (EIAs) for Phases 1 and 2 of the Sakhalin-II Project. Between late 2002-early 2003, a comprehensive Western Gray Whale Technical EIA was undertaken by an international marine mammal consultancy, LGL Limited, to specifically address the Project's potential impact on the western gray whale population. Western gray whale monitoring studies carried out between 1997-2002 informed this and other impact assessments. The main objectives of Western Gray Whale Technical EIA were to:

- provide background information of what is currently known and not known about the western gray whale;
- identify potential sources of impacts on western gray whales that might arise directly through project activities or indirectly as a result of cumulative impacts created in combination with other projects; and assess the likely magnitude and significance of those impacts;
- develop mitigation measures to eliminate or minimise potential adverse impacts to as low as reasonably practicable levels; and
- develop monitoring programmes to fill information gaps and verify effectiveness of mitigation measures.

The EIA concluded that many activities that will take place during the construction and operation of Phase 2 would not have an adverse impact on the whale population because mitigating equipment and procedures have already been built into the project design. The main potential impacts concern the establishment of underwater offshore pipelines, dredging activities, noise from vessel operations, and the unlikely event of a collision with a vessel or a major oil spill.

Based on the recommendations of this assessment, mitigation measures have been developed to minimise potential impacts as far as is reasonably practicable. Mitigation measures will include the appropriate scheduling of activities (e.g. seasonal restrictions); vessel speed and flight path restrictions; and the soft ramping up (i.e. incremental rather than sudden) of noise generating activities. All large vessels will have marine mammal observers onboard who will alert the project teams upon sighting a whale; and this observation system will be reinforced by aerial surveys. Vessels will attempt to maintain a distance of 1000m from any western gray whale sighted.



These mitigation measures form the essential components of a Western Gray Whale Protection Programme, which is described in the following section.

5 WESTERN GRAY WHALE PROTECTION PROGRAMME

In 2001, Sakhalin Energy developed a Western Gray Whale Protection Programme to ensure a coherent and coordinated strategy to protect the western gray whale from any potential impacts that might arise through current and proposed oil and gas production activities. Sakhalin Energy will update this Programme in mid-2003 to reflect recent mitigation recommendations put forward in the independent environmental impact assessments. The 2003 Programme will be the key management tool for the implementation of these mitigation measures.

The Programme contains a summary of relevant project construction and operations activities and related potential impacts; and a description of the protection measures that will apply to relevant marine activities, including marine works, shipping, aviation, and platform operations.

The Programme will apply to all marine and near-shore contractors working on the Sakhalin-II Phase 2 Project, and will be available for viewing on the Sakhalin Energy website in May 2003.

6 CONCLUSION

Sakhalin Energy is committed to ensuring that its ongoing and future offshore oil and gas development activities will continue to have no adverse impact on the western gray whale population. It has made available significant resources (both financial and human), to the amount of several million US dollars, to the development of a robust and effective protection strategy for the whale. The key elements of this strategy are the Western Gray Whale Research Programme in the Russian Federation, the Western Gray Whale Protection Programme, and the forthcoming Western Gray Whale International Monitoring Programme. The development of these programmes has benefited from independent marine mammal specialist advice.

All contractors working in the marine environment will be required to adhere to the mitigation measures put forward in the Western Gray Whale Protection Programme, which will ensure that all potential impacts are maintained to as low as reasonably



practicable and convey no significant adverse impact on the whale population. The current and future monitoring programmes will contribute to global knowledge on the western gray whale, and will ensure that Sakhalin Energy's western gray whale protection strategies continue to be updated and effective.

Further sources of information

For more information on Sakhalin Energy's western gray whale initiatives and other activities and position papers, please refer to Sakhalin Energy's website www.sakhalinenergy.com. If you would like to contact us directly, please send an email to asksakhalinenergy@sakhalinenergy.com.