

# Appendix



## **Additional Information on Indigenous Peoples Consultation**

## Appendix E

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#### APPENDIX E-01: SEIC SUPPORT FOR INDIGENOUS PEOPLES' PROGRAMMES

Since 1994 Sakhalin Energy has been supporting various projects related to the culture and education of Sakhalin's indigenous people.

Year	SEIC Support
1994	<ul style="list-style-type: none"> <li>• Sponsorship and assistance in organising the Native festival <i>Rhythms of the North</i> (Poronaisk).</li> <li>• Purchase of equipment for the Poronaisk technical college of traditional Native industries.</li> </ul>
1995	<ul style="list-style-type: none"> <li>• Sponsorship and organisational assistance for Native children's song and dance festival <i>Follow the Sun</i> (Nogliki).</li> </ul>
1996	<ul style="list-style-type: none"> <li>• Support for the Poronaisk Native technical college (scholarships, advanced teacher training, and materials).</li> <li>• Financing of repair work to Nogliki ethnographic museum.</li> </ul>
1997	<ul style="list-style-type: none"> <li>• Sponsorship of the Poronaisk Native technical college.</li> <li>• Purchase of Nivkh artefacts for the Poronaisk museum.</li> <li>• Sponsorship of a tour by Nivkh ensemble <i>Ari la Mif</i> (Nogliki) to Yuzhno-Sakhalinsk.</li> <li>• Organisation and sponsorship of travelling exhibition <i>Crossroads of the Continents</i> with Native cultural artifacts from Alaska, Chukotka, Primorye and Sakhalin.</li> <li>• Sponsorship of Native children's dance troupe to take part in an All-Russia gala concert in Moscow.</li> <li>• Three scholarships for Native students at Sakhalin vocational schools and higher education institutions.</li> </ul>
1998	<ul style="list-style-type: none"> <li>• Support for the Poronaisk Native technical college (scholarships, materials).</li> <li>• Continuation of scholarship programme for Native students studying at Sakhalin's vocational schools and higher education institutions.</li> <li>• Support for and participation in the regional scientific conference <i>Language Ecology: Languages of Sakhalin's Indigenous Peoples</i>.</li> <li>• Support for the 3<sup>rd</sup> conference of the Sakhalin Regional Association of Indigenous Peoples.</li> <li>• Support for the 3<sup>rd</sup> colloquium <i>Peoples of the North: Traditions and Contemporary Life</i>.</li> </ul>
1999	<ul style="list-style-type: none"> <li>• Support for the Poronaisk Native technical college (visual aids, materials, and equipment repairs).</li> <li>• Sponsorship of two participants at the Sakhalin student/young scientists' conference on Sakhalin and world history, particularly Native culture.</li> <li>• Awards for participants of the Festival of Northern Native Culture in Tymovskoye.</li> <li>• Organisation of the 1st regional Native children's exhibition of applied art <i>My Land is Sakhalin</i>.</li> <li>• Support for the Sakhalin regional workshop <i>Native Language: a Basis for Teaching and Upbringing</i>.</li> <li>• Support for the 1st Regional Congress of clan, family and Native enterprises of Sakhalin.</li> <li>• Support for seven Native collectives.</li> <li>• Support for the travelling history/culture exhibition <i>Indigenous People on the Threshold of 21st Century</i> organised by the Sakhalin Regional Museum.</li> <li>• Scholarships for Native students at Sakhalin vocational schools and higher education institutions.</li> </ul>
2000	<ul style="list-style-type: none"> <li>• Continued support for Sakhalin Museum project <i>Indigenous People on the Threshold of 21st Century</i>.</li> <li>• Organisation of new travelling exhibition <i>Beginning</i> to tour the districts of Sakhalin.</li> <li>• Support for the Festival of Sakhalin's Native Peoples in Tymovskoye.</li> <li>• Purchase of Native artefacts for the Sakhalin Regional Art museum.</li> <li>• Sponsorship of indigenous participants from Sakhalin in training courses in Naryan-Mar (reindeer breeding and meat processing) and in Moscow (marketing).</li> <li>• SEIC 2000 corporate calendar – <i>Aborigines of Sakhalin: Yesterday, Today and Tomorrow</i>.</li> <li>• Financing of workshop on manufacturing souvenirs/clothes from leather/fur for 20 Native participants (Poronaisk).</li> <li>• Purchase and delivery of 20 sets of ski gear for Native residents of Nekrasovka.</li> <li>• Sponsorship of New Year celebrations at the Poronaisk Native technical college.</li> <li>• Publication of catalogue <i>Applied Art of the Far Eastern Northern Native Peoples in Collections of the Sakhalin Regional Museum</i>.</li> <li>• Support of events to celebrate the International Decade of Indigenous Peoples, tied to opening of an ethnic cultural centre in Yuzhno-Sakhalinsk.</li> <li>• Making of two documentaries about historic and cultural traditions of Sakhalin's Native peoples: <i>Land of the North Wind and Islands of the Ocean</i>; distribution to Sakhalin's cultural and educational centres.</li> <li>• Support for a regional workshop as part of the Junior Achievement Programme for Native teachers.</li> <li>• Scholarships for Native students at Sakhalin vocational schools and higher education institutions.</li> <li>• Subscription to regional newspapers: <i>Sovietsky Sakhalin</i>, <i>Gubernskiy Vedomosti</i>, <i>Yuzhno-Sakhalinsk</i>, and the children's newspaper <i>September 1</i> for schools in Nekrasovka, Nogliki, Val, Chir-Unvd, Poronaisk, Viakhtu (Aleksandrovsk District) and the Sakhalin Regional Association of Indigenous People.</li> </ul>
2001	<ul style="list-style-type: none"> <li>• Scholarships to Native students at Sakhalin vocational schools and higher education institutions.</li> </ul>
Year	SEIC Support
	<ul style="list-style-type: none"> <li>• Subscription to regional newspapers: <i>Sovietsky Sakhalin</i>, <i>Gubernskiy Vedomosti</i>, <i>Yuzhno-Sakhalinsk</i>, and the children's newspaper <i>September 1</i> for schools in Nekrasovka, Nogliki, Val, Chir-Unvd, Poronaisk, Viakhtu and the Sakhalin Regional Association of Indigenous People.</li> <li>• Support for Native sports tournament for participants from seven districts of Sakhalin.</li> <li>• Financing of Native participation in presentation of Kreinovich's book <i>Nivkhgu</i> (Yuzhno-Sakhalinsk).</li> <li>• Support for organisation and opening ceremony of the exhibition of Nivkh artist, Lidia Kimova.</li> </ul>

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	<ul style="list-style-type: none"> <li>• Support for Sakhalin Regional Museum's travelling exhibition <i>Heritage of Ancient Cultures of Primorye and Sakhalin</i> (Poronaïsk, Tymovsk, Aleksandrovsk, Nogliki, and Okha Districts).</li> <li>• Support for Dutch-Russian linguistic project <i>Voices of the Taiga and Tundra</i> on disappearing Native languages of Sakhalin.</li> <li>• Workshops for indigenous people about integrated development of the Sakhalin II Project (Nogliki).</li> <li>• Donation of office equipment to Chir-Unvd district administration.</li> </ul>
2002	<ul style="list-style-type: none"> <li>• Scholarships to Native students at Sakhalin vocational schools and higher education institutions.</li> <li>• Subscription to regional newspapers: <i>Sovietsky Sakhalin</i>, <i>Gubernskiye Vedomosti</i>, <i>Yuzhno-Sakhalinsk</i>, and the children's newspaper <i>September 1</i> for schools in Nekrasovka, Nogliki, Val, Chir-Unvd, Poronaïsk, Viakhtu and the Sakhalin Regional Association of Indigenous People.</li> <li>• Sponsorship of Sakhalin Regional Administration's Festival of Native Culture (Tymovskoye).</li> <li>• Support of the Native Traditional Sport tournament (Nogliki).</li> <li>• Donation of 16 sets of ski gear to Nivkh NGO <i>Chamgun</i> (Nogliki).</li> <li>• Sponsorship of tour of Regional Puppet Show (over 14,000 children in Val, Leonidovo, etc.).</li> <li>• Support of international project <i>Voices of the Taiga and Tundra</i> (mid 2001-mid 2002).</li> </ul>
1997-2002	<ul style="list-style-type: none"> <li>• Financing of Native cultural projects related to book publishing.</li> <li>• Publication of monthly Nivkh language newspaper <i>Nivkh Dif</i> (1999-2002).</li> <li>• Publication of the book <i>Keepers of Ancient Ornaments</i> (samples of the Nivkhi ornaments).</li> <li>• Publication of Nivkh-Russian dictionary (compiled by Kreinovich).</li> <li>• Publication of Russian-Uilta(Orok) and Uilta(Orok)-Russian dictionary.</li> </ul>

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#### APPENDIX E-02: SEIC INDIGENOUS PEOPLES' SEMINAR AGENDA

TABLE E-01: IP SEMINAR, NOVEMBER 29, 2001, NOGLIKI CHILDREN'S ART SCHOOL

12:00	<ul style="list-style-type: none"> <li>• Registration, tea/coffee</li> <li>• Showing of SEIC Native historical/cultural videos</li> </ul>	T. Luzan
12:30	<ul style="list-style-type: none"> <li>• Introduction and opening remarks</li> <li>• Introduction of speakers</li> <li>• PEIA hearing process, SEIC commitment to sustainable development</li> </ul>	B. Hill T. Luzan B. Hill
12:45	<ul style="list-style-type: none"> <li>• Project PEIA environmental presentation</li> </ul>	B. Hill
13:05	<ul style="list-style-type: none"> <li>• Proposed Construction/Operations in the Piltun-Nogliki area</li> <li>• Including: construction camp in Val/Construction and laydown yards in Nogliki/expansion of existing Nogliki Camp/Pipeline construction/Access roads</li> </ul>	D. Bell
13:30	<ul style="list-style-type: none"> <li>• Land Acquisition and Compensation</li> </ul>	G. Tereshenkov
13:45	<ul style="list-style-type: none"> <li>• SEIC Health Impact Assessment</li> </ul>	J. Balint
14:00	<ul style="list-style-type: none"> <li>• LUNCH</li> </ul>	
14:45	<ul style="list-style-type: none"> <li>• Onshore fisheries and river crossings in Nogliki District</li> </ul>	D. Petelin
15:00	<ul style="list-style-type: none"> <li>• Offshore fisheries, marine mammals (esp. grey whales), oil spill response</li> </ul>	B. Hill
15:20	<ul style="list-style-type: none"> <li>• Biological Surveys in Nogliki and Okha Districts: fauna and flora</li> </ul>	D. Petelin
15:40	<ul style="list-style-type: none"> <li>• Waste management and discharges</li> </ul>	Z. Izotova
16:00	<ul style="list-style-type: none"> <li>• Round table discussion: questions and answers</li> </ul>	B. Hill, SEIC representatives, Native representatives
17:00	<ul style="list-style-type: none"> <li>• Summary of issues raised by Native representatives</li> </ul>	T. Roon
17:30	<ul style="list-style-type: none"> <li>• Issues of importance to local indigenous people</li> </ul>	Native representatives from all districts
18:00		CLOSE

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TABLE E-02: ISSUES RAISED DURING SEMINAR SESSIONS

A. Specialist Sessions	
Project PEIA (B. Hill)	<ul style="list-style-type: none"> <li>• Can we obtain the table of estimated employment figures for northern districts from SEIC?</li> <li>• What impact has the reduction of oil prices had on the company?</li> <li>• What happens to the wastes on the Molikpaq platform?</li> <li>• Will the company upgrade local railroads?</li> <li>• Will there be market for Sakhalin LNG? [Local political activist] A. Cherniy convinces the public through the media that the construction of such a plant is outdated.</li> <li>• The company was doing ecological and social monitoring, as well as monitoring of bio-resources. Has there been any monitoring of indigenous peoples?</li> </ul>
Construction and Operations in the Piltun-Nogliki Area (D. Bell)	<ul style="list-style-type: none"> <li>• Who will monitor construction of pipeline sections and how will this be done?</li> <li>• You are going to build only gravel roads, why don't you construct asphalt roads?</li> <li>• What are your requirements for employees? It is not a secret that a lot of oil industry workers hunt illegally. How will you solve this problem?</li> <li>• What areas will be exposed to excavation work? In our district, all these lands are historically inhabited by indigenous peoples. Who gave permission for the construction and excavation?</li> <li>• You showed only the onshore pipeline route. Where will the pipeline go in Piltun and Astokh Bays?</li> <li>• In Val, construction will take place on the territory of the former airport and a road will be constructed. Will the residents of Val have free access along the road to berry fields and the pier?</li> <li>• What negative impact will the pipeline construction have near Ngayan Cape on Chaivo Bay?</li> <li>• When will construction take place and for how long?</li> <li>• How are the HSE requirements observed?</li> <li>• How are seismic conditions taken into consideration during pipeline construction?</li> </ul>
Land Acquisition and Compensation (G. Tereschenkov)	<ul style="list-style-type: none"> <li>• Piltun and Astokh bays are territories where indigenous peoples have traditionally lived. How will moral and material damage be compensated to the residents of these territories?</li> <li>• Why did no one meet and consult with the herders at the design stage? Reindeer calve on these territories in spring and summer. According to a Governor's decree, these territories went to the reindeer co-operative 'Valetta'. Why did nobody consult us?</li> <li>• How is damage to berries and other forest resources calculated?</li> </ul>
Health Impact Assessment (J. Balint)	<ul style="list-style-type: none"> <li>• According to the data of specialists from Novosibirsk who examined residents of Okha and Nogliki Districts, the lead content in their blood is double the norm. Can the company help to investigate the reasons for these results?</li> </ul>
Onshore Fisheries and River Crossings in Nogliki District (D. Petelin)	<ul style="list-style-type: none"> <li>• Our district is the only one where there is salmon. Has any research been done about the possible impact of the project on the salmon stock?</li> <li>• Earthmoving work will be done by scrapers. What sort of equipment is this?</li> </ul>
Offshore Fisheries, Marine Mammals, Oil Spill Response (B. Hill)	<ul style="list-style-type: none"> <li>• What was the reason of the mass die-off of herring in June 1999? How did operation of the Molikpaq platform influence it?</li> <li>• Could you tell us about oil spill response and the effectiveness of emergency response teams?</li> <li>• How effective are floating booms, how much oil is gathered and how much left in the environment?</li> <li>• Is there any sand in the produced oil and is this left on the platform or loaded to a storage vessel?</li> <li>• How will the company react if there is a gas explosion while drilling? What would the impacts be?</li> <li>• To what extent has the Okhotsk Sea been studied?</li> <li>• How is oil spill response carried out in winter?</li> </ul>
Biological Surveys in Nogliki and Okha Districts (D. Petelin)	<ul style="list-style-type: none"> <li>• Who worked out the recommendations for ecological monitoring?</li> <li>• In recent years fish catches are decreasing in Poronaisk (saffron cod and sculpin). There is not enough fish for fishing enterprises and collectives to catch. What is the reason for this decline? Does oil production have any impact on it?</li> <li>• Does sound detonation while drilling have any impact on fish?</li> <li>• The company has some environmental mitigation measures. This initially presupposes that the impact will be negative. Do you agree?</li> </ul>
Waste Management (Z. Izotova)	<ul style="list-style-type: none"> <li>• Where do the wastes go after oil refining? After refining, the processed water contains the whole periodic table. Where does this water go?</li> <li>• Oil and old filters have to be sent to toxic waste deposits. Where are these deposits and where do these wastes go now?</li> <li>• Your project wastes will be transferred onshore. Here's the opinion of a competent scientist (Samatov, Znamya Truda, November 6, 2001). Could you comment on this please?</li> <li>• What percent of toxic substances will go into the atmosphere and come back to earth?</li> </ul>

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B. General Question and Answer Session	
<b>Hunting</b>	<ul style="list-style-type: none"> <li>The company is going to construct roads and this means that illegal hunting will increase. Will this situation be controlled?</li> </ul>
	<ul style="list-style-type: none"> <li>The pipeline route in Tymovsk District goes through hunting areas. What compensations will be paid to hunters?</li> </ul>
<b>Reindeer Herding</b>	<ul style="list-style-type: none"> <li>Fires have destroyed 32,000 ha of land in Okha and Nogliki Districts. There used to be 16,000 reindeer on Sakhalin, now there is a maximum of 3,000-4,000. Can SEIC include in its plans programmes to preserve reindeer herding?</li> <li>'Aborigen Sakhalina' developed a Reindeer Herding Preservation Programme, which is no longer being financed. Can the company help somehow?</li> </ul>
<b>Compensation and Land Needs</b>	<ul style="list-style-type: none"> <li>As far as I understand, compensation [for land take] will only be paid to the forest service? Why is there no direct compensation to herders?</li> <li>Why are we talking about compensation if we do not have any rights?</li> <li>Why is compensation paid only to landowners? Formerly land users were paid compensation, too.</li> <li>What is the difference between temporary and permanent land acquisition? When is the rent paid?</li> <li>What compensation will SEIC pay for damage to lands crossed by the oil and gas pipelines?</li> <li>At the moment legislative processes are going on in Russia. There are new laws relating to indigenous peoples. A new law has been passed 'On territories of traditional nature use'. The President has given instructions to work out mechanisms to implement this law. Then we will become real owners of our land and there won't be any mediators between us. I suggest gathering later and discussing these issues again.</li> </ul>
<b>Youth Employment and Training</b>	<ul style="list-style-type: none"> <li>Why is the problem of the [indigenous] young generation not being resolved? Nobody employs them, and you won't. You will leave, and we will stay with our problems.</li> <li>Will the number of jobs required be specified in the future? We want to know what professions our children should train for now in order to be employed on the Project. Could you pass this information at least to the Sakhalin Regional Association of Indigenous Peoples?</li> </ul>
<b>Distribution of Revenues/Benefits</b>	<ul style="list-style-type: none"> <li>We do not know what percent of payments from oil companies [to the government] goes towards support for indigenous peoples. Is this information available?</li> <li>You promise an increase of income on Sakhalin. Won't this lead to abrupt stratification and discontent among local producers?</li> <li>I suggest transferring part of the SEIC money that goes into the Sakhalin Regional budget to a separate fund for the districts where project construction and operation are taking place.</li> </ul>
<b>Social/Cultural Support and Supplementary Assistance</b>	<ul style="list-style-type: none"> <li>We know that the company supports social projects. In Nogliki District there is a unique Historical and Ethnographic Museum. There is no money for its reconstruction in the local budget. Can the company give \$100,000-150,000?</li> <li>We recommend creating an independent fund for development and support of indigenous people.</li> <li>You are supporting research about flora and fauna, but nobody ever did research about indigenous people. Can the company help finance such a programme of research?</li> </ul>
<b>Fish and Water Resources</b>	<ul style="list-style-type: none"> <li>During pipeline construction security will be tighter. Won't this hinder movement of fishermen?</li> <li>What is the impact of the Sakhalin II Project on fish migration?</li> <li>To what depth does the pipeline go on the seabed? Is there a danger of pipeline damage?</li> <li>Do you know about the ecological situation on Sladkoye Lake? [This was a picturesque place with clear water that became muddy].</li> </ul>

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### APPENDIX E-03: INTERVIEWS WITH OFFICIALS, NGOS AND INDEPENDENT EXPERTS

TABLE E-03: MEETINGS WITH INDIGENOUS REPRESENTATIVES AND OTHERS ACTIVE IN NATIVE AFFAIRS (OCTOBER 1-30, 2001)

Date	Location	Name	SEIC Representatives Present
8 Oct. 01	Yuzhno-Sakhalinsk	Antonina Nachetkina, Native Representative, Sakhalin Regional Duma	SA Group
8 Oct. 01	Yuzhno-Sakhalinsk	President of the Khabarovsk Regional Association of Indigenous Peoples	SA Group
10 Oct. 01	Yuzhno-Sakhalinsk	Nikolai Solovyev, Vice-president, Sakhalin Association of Indigenous Peoples	SA Group
11 Oct. 01	Yuzhno-Sakhalinsk	Dmitry Lisitsyn, head of Sakhalin NGO 'Sakhalin Environment Watch'	SA Group
12 Oct. 01	Yuzhno-Sakhalinsk	Alexei Limanzo, President, Sakhalin Regional Association of Indigenous Peoples	SA Group
12 Oct. 01	Yuzhno-Sakhalinsk	Emma Wilson, independent social-environmental consultant	SA Group

TABLE E-04: INTERVIEWS WITH SAKHALIN REGIONAL ASSOCIATION OF INDIGENOUS PEOPLES (FEBRUARY-MARCH 2002)

Location	Interviewee	SEIC Representatives
Yuzhno-Sakhalinsk	Four meetings with A.L. Limanzo, President of the Association	Representatives of SEIC External Affairs team
Yuzhno-Sakhalinsk	N.V. Solovyov, Association vice-president	IP Team leader
Nogliki	A. Kavozg, former head of Nogliki Association	IP Team representatives

TABLE E-05: INTERVIEWS HELD AS PART OF THE SIA WITH OFFICIALS IN DISTRICTS WITH INDIGENOUS POPULATIONS

Date	Place	Officials Interviewed
22 Nov. 01	Nogliki District Administration	<ul style="list-style-type: none"> <li>Vice-Mayor, N. Prikhodko</li> <li>Head of Education Department, T. Kim</li> <li>Head of Economics Department, G. Razenkina</li> </ul>
	Tymovsk District Administration	<ul style="list-style-type: none"> <li>Vice-Mayor, G. Fedorovskaya</li> <li>Chief Medical Officer, Centre for Sanitary Control, N. Dubrovskaya</li> <li>Specialist in Youth Issues, District Administration, Irina Kulagina</li> <li>Director of Centre for Youth Arts, L. Karabaneva</li> </ul>
	Poronaisk District Administration	<ul style="list-style-type: none"> <li>Vice-Mayor, V. Sharshin</li> <li>Head of Department of Industry and Economics, Y. Kasyanova</li> </ul>
23 Nov. 01	Piltun Village Administration Val Village Administration	<ul style="list-style-type: none"> <li>Head of Sabo Village Administration, N. Fariseva</li> <li>Chief of Piltun Railway Junction, V. Morosov</li> <li>Head of village administration, V. Pchelintseva</li> </ul>
24 Nov. 01	Katangli Village Administration Chir-Unvd Village Administration	<ul style="list-style-type: none"> <li>Head of village administration, S. Prokhorov</li> <li>Head of village administration, V. Toch</li> <li>Director of clan enterprise 'Khumivo', N. Suprun</li> </ul>
26 Nov. 01	Aleksandrovsk District Administration Smirnykh District Administration	<ul style="list-style-type: none"> <li>Head of Economics Department, O. Mashkina</li> <li>Head of Education Department, V. Radugin</li> <li>District mayor, N. Kosinsky</li> <li>Head of Smirnykh Village Administration, A. Andreev</li> </ul>
27 Nov. 01	Buyukly Village Administration Nysh Village Administration	<ul style="list-style-type: none"> <li>Head of village administration, Y. Konkov</li> <li>Head of village administration, V. Akhmetshina</li> </ul>
<b>Total Interviewed</b>		<b>21 officials</b>



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TABLE E-06: INTERVIEWS WITH OFFICIALS AS PART OF IP CONSULTATION PROCESS (NOVEMBER 2001 -MAY 2002)

Date	Location	Name	Official Title
30 Nov. 01	Nogliki	G.I. Schegolevatykh	Head of the Nogliki District Land Committee
23-29 May 02	Nogliki	L.N. Romanova	Head of the Department Of Culture, Nogliki District Administration
	Nogliki	S.A. Butyrin	Head of the Nogliki District Fish Inspectorate
	Nogliki	A.Yu. Zhdankov	Chief Hunting Expert, Nogliki District
	Nogliki	T.N. Kim	Head of the Department of Education, Nogliki District Administration
	Nogliki	N.A. Shishova	Head of the Nogliki District Employment Centre
	Nogliki	E.I. Vovkuk	Specialist In Native Affairs, Nogliki District Administration
	Nogliki	G.I. Romanov	Deputy Head Of Nogliki District Council
	Chir-Unvd	N. Levitskaya	Specialist in Native Affairs, Chir-Unvd Village Administration
	Buyukly	L.Yu. Yuzhakova	Deputy Head Of Buyukly Village Administration
Poronaisk	L.P. Kitazima	Specialist In Native Affairs, Poronaisk District Administration	
<b>Total Interviewed</b>		<b>11 officials</b>	

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### APPENDIX E-04: THE FEDERAL PROGRAMME OF SUPPORT FOR NATIVE PEOPLES

#### The Regional Administration and the Federal Programme of Support for Native Peoples

In 1996 the Russian government developed a federal programme *Economic and Social Development of the Indigenous People of the North up to the Year 2000*. On the basis of this programme an identical programme was worked out for the Sakhalin Region up to the year 2000.

On November 29, 2001, the Sakhalin regional parliament (*Duma*) passed the law *On the Economic and Social Development of the Indigenous People of the North from 2001-2004*. The Sakhalin Regional Administration, local administrations in districts with indigenous populations and the Sakhalin Regional Association of Indigenous Peoples developed the programme. The overall cost of the initiatives in the programme is R204,239 (approximately \$6,500 as of 2002).

The programme includes the following sub-programmes:

TABLE E-07: THE ECONOMIC AND SOCIAL DEVELOPMENT PROGRAMME FOR SAKHALIN'S INDIGENOUS PEOPLE

Subprogramme	Components
Employment, development of traditional sectors/industries	<ul style="list-style-type: none"> <li>• Financial support to clan enterprises for processing; construction of fish processing plants.</li> <li>• Increase in reindeer enterprises and revival of herds; construction of two reindeer herding bases; fencing off of reindeer pastures.</li> <li>• Organisation of souvenir production and crafts.</li> <li>• Construction of refrigerators, purchase of boats, freezers, provision of new technology to clan enterprises.</li> <li>• Establishment of trading stations.</li> </ul>
Development of social infrastructure, health care and the service sector	<ul style="list-style-type: none"> <li>• New equipment and medicines for medical centres.</li> <li>• Financial support for a broader range of social services, including support for poor families, provision of housing, improvement of housing conditions, construction of public baths.</li> </ul>
Spiritual and national-cultural development, education, activating the role of the Native people in the economic and social processes	<ul style="list-style-type: none"> <li>• Initiatives to develop native self-government.</li> <li>• Repair and maintenance of children's establishments.</li> <li>• Construction of a nursery-kindergarten in Nekrasovka.</li> <li>• Native summer schools.</li> <li>• A complex of nursery-kindergartens.</li> <li>• Support for training and education of Native students in universities, colleges, schools.</li> <li>• Help for students and schoolchildren.</li> <li>• Publication of books for Native people.</li> </ul>
Protection of the environment	<ul style="list-style-type: none"> <li>• Establishment of two new protected areas.</li> <li>• Re-establishment of the boundaries and use regime of territories of traditional natural resource use.</li> </ul>
Energy provision and development of communications	<ul style="list-style-type: none"> <li>• Purchase diesel generators and wind-powered generators for clan enterprises</li> <li>• Purchase fuel, motors for boats, snowmobiles, all terrain vehicles and automobiles.</li> </ul>
Construction	<ul style="list-style-type: none"> <li>• Various buildings included in the programme.</li> </ul>

Financing is to come from the federal and regional budgets and the Sakhalin regional Extra-Budget Fund (Chapter 10). Implementation of the programme has already begun.

In the first half of 2002 the Nogliki District mayor issued a resolution to distribute programme finances. This included:

- Support for students studying at the Northern Native peoples' faculty of the Herzen institute in Petersburg,
- Support for a student at the oil industry technical college,
- Support for six Native families involved in individual work,
- Food subsidies for kindergartens and schools,
- Establishment of a trading station to buy production from traditional sectors of the economy,
- Support for a Native children's camp,
- Food for 'Valetta' reindeer herders,
- Purchase of a diesel generator for Ulvo settlement, and
- subsidies for free false teeth.

Judging by the implementation of the previous regional programme, one might conclude that initiatives are planned without broad open discussion with Native communities and local councils. The programme

has not resolved the problems that concern people most (employment and increasing the competitiveness of clan enterprises – quality of production, improvement of the production base, and so on). The programme fails to provide basic training in production organisation, financial management, marketing and other key issues that are essential to the establishment and stable development of small business.

### The Role of the Association in Implementing the Social Programme

The Sakhalin regional NGO 'Sakhalin Regional Association of Indigenous Peoples of the North' was established 10 years ago and is now based in Nogliki. It links representatives of all Northern Native groups in the Sakhalin region.

The Association consists of the president, the vice-presidents, and the coordination council, and meets three or more times a year. Twice a year the Association has a general meeting of Native representatives from all districts and ethnic groups to discuss economic and social issues. There are branches of the Association in all six districts where Native people live and in Yuzhno-Sakhalinsk.

Members of the coordination council helped to develop the socio-economic programme for the Native people of Sakhalin Region (2001-2004) passed by the Duma and they have taken part in other programmes and initiatives.

The Association works in close contact with the regional administration and the Native representative in the regional Duma: they take part in the distribution of fish quotas, in the discussion of several social issues, in discussion of draft laws. They organise seminars together with the Russian Association of Indigenous Peoples (RAIPON) and organise festivals, Native holidays and other events.

The district associations engage with similar issues, such as resolving conflicts over distribution of fish quotas and fishing areas. Many Native people welcome these beginnings and value the efforts made by the Association leaders. However, according to the survey, several Native people feel that the Association is not doing enough.

The Association worked out its own programme of help for Native people for 2002, and this was presented to the heads of oil companies working on Sakhalin. This programme repeats certain points in the regional programme from 2001-2004 with the addition of new ones (e.g., support for the regional Nivkh language newspaper *Nivkh Dif*, development of cultural centres and Native museums).

The Association has signed an agreement with the governor of Sakhalin (1999) and Exxon Neftegas Ltd. (2001) about collaboration on resolving socio-economic issues relating to the Native population. Joint initiatives have been undertaken.

The leaders of the regional Association consider their co-operation agreement with Exxon to be a great success. Exxon has set up a consultative council to distribute support for Native people and is engaging with Association leaders. This has had a powerful effect on Native representatives. Many Native people value these steps as a turning point: the acknowledgement of the role of Northern Native people in Sakhalin's political and economic life. Native people see this as making an important shift towards building a genuine relationship.



# Appendix



## Project Description

## Appendix F Project Description

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## APPENDIX F-01: SUMMARY PROJECT DESCRIPTION

A comprehensive and large-scale development of the Piltun-Astokhskoye and Lunskoye oil and gas fields off Sakhalin Island is proposed under Phase 2 of the Sakhalin II Project. The main assets and facilities of Phase 2 are listed below:

- An oil and gas production and drilling platform at Piltun (PA-B) with separate oil and gas export pipelines,
- The existing PA-A facility offshore Astokh with new and separate oil and gas export pipelines,
- A gas and condensate/oil rim production and drilling platform at Lunskoye (Lun-A),
- Multiphase export pipelines from the Lun-A platform to the Onshore Processing Facility (OPF),
- A MEG flowline from Lun-A platform to the OPF,
- Combined power and fibre optic cables from the OPF to Lun-A platform,
- Oil pipelines including booster stations that will gather oil processed by the PA-A and PA-B platforms and condensate/oil rim oil produced from the Lun-A platform,
- An OPF that treats production from the Lun-A platform; for transportation by pipeline to an oil export terminal (OET) at Prigorodnoye in the south of Sakhalin Island,
- Gas pipelines including compressor booster stations that will gather gas from the PA-A and PA-B platforms and the OPF for transportation to an LNG plant at Prigorodnoye in the south of Sakhalin Island,
- Pipeline connections/valves needed for future domestic gas deliveries (GDT – Gas Disposition Terminal) near Boatasyn and in the south of Sakhalin Island,
- An Oil Export Terminal at Prigorodnoye; with an export pipeline and power/fibre optic cable; and an offshore tanker loading unit (TLU) in Aniva Bay,
- A liquefied natural gas (LNG) plant to be commissioned in stages with two process trains and an LNG shipping facility located near the town of Prigorodnoye,
- A pipeline to transfer natural gas liquids from the LNG plant to the OET,
- Telecommunications infrastructure, and
- An Infrastructure Upgrade Project (IUP) that will upgrade roads, railways, ports and airports to support the logistics of construction and operation of the Phase 2 development.

The key components of the project are outlined as follows.

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### APPENDIX F-02: OFFSHORE FACILITIES

The offshore facilities include:

- The existing platform PA-A (Molikpaq),
- PA-B and Lun-A platforms, and
- Offshore pipelines.

#### PA-B PLATFORM

The planned PA-B platform will be located in the Piltun area of the Piltun-Astokhskoye field at a water depth of 30m and has the following coordinates: latitude 52° 55' 59" N and longitude 143° 29' 54" E. Production is planned to start in the 4th quarter of 2006.

The PA-B platform is a drilling and oil production platform with accommodation facilities for the operating personnel. It is designed for operation throughout the year under specific ice conditions, extremely low ambient air temperatures, winds and wave conditions and seismic impacts. The PA-B platform has been designed to produce a maximum annual output of 3.2-3.4 million tonnes of crude oil and about 0.9 billion m<sup>3</sup> of associated gas.

The topside of the platform is designed in the form of an integrated deck consisting of five main decks installed on a concrete gravity base structure. The concrete base is itself a foundation block with four cylindrical legs. The topside will accommodate the wellhead equipment, accommodation facilities, main and auxiliary equipment.

The platform features separate location of the main and auxiliary equipment; the flare and the wellhead area will be located at the end of the platform opposite to the accommodation facilities in order to ensure maximum safety. A helideck will be located to ensure free flow of air and absence of any ascending air streams. All production facilities of the platform will be located in ventilated areas with controlled ambient air temperature.

The drilling equipment, which is part of the integrated topsides deck will permit drilling of inclined directional wells through a support column of the underwater base of the platform. In addition the following systems will be installed on the PA-B platform:

- A flare system designed for safe disposal of hydrocarbons in the process of start-up, emergency shutdown and maintenance of the equipment,
- The platform will accommodate an oil and gas preparation unit,
- Crude oil will be pumped into the oil pipeline after being stabilised in an oil treatment unit to ensure its compliance with the technical requirements for transportation via pipelines with respect to the water sludge (not more than 0.5%) and mud residue content as well as with specifications parameters (eg. Saturated vapour pressure),
- Seawater will be used for the platform's water supply system. Both seawater and freshwater will be used in the process water supply system,
- Electric power will be supplied for the PA-B platform facilities by two turbo-generators designed for two types of fuel: gas and diesel fuel,
- The heating, ventilation and air-conditioning systems are designed to provide comfortable working and living conditions for the personnel,
- For navigational purposes, the offshore platform will include illumination and anti-fog signalling systems, and
- A system of internal and external communications will be provided conforming to the applicable regulatory requirements and ensuring efficient operation of the offshore platform.



### Construction Period of PA-B Platform

The platform topside will be manufactured at a shipyard in East Asia. The platform gravity base structure will be built in a gravity dock in the Russian Far East. The lower base of the PA-B platform will be towed to its location in the Piltun-Astokhskoye field by sea-going tug vessels. Towing and installation of the gravity base structure, as well as installation of the topsides of the platform will be accomplished within about 60 days each.

### Commissioning Period of PA-B Platform

The PA-B platform will be commissioned after mechanical completion installation operations. Two supply vessels will be required for delivery of equipment and materials in the pre-commissioning period in 2006.

Transportation of cargoes to the PA-B platform is possible via sea from the Moskalvo port (located at a distance of about 280km in the northern part of Sakhalin in the Baikal Bay), or from Kholmsk, Korsakov and Poronaisk ports in the southern part of the island, as well as by helicopters from the city of Okha and town of Nogliki.

It is assumed that MI-8 helicopters will make on average two flights per week during the commissioning period.

### Operation Period of PA-B Platform

The PA-B platform will have 45 well slots designed for 20 to 30 production wells and 15 to 22 water injection wells. The well design provides for a possibility to re-inject drill cuttings when using oil-based muds. Water based drilling cuttings generated in the first well and the conductor string for each subsequent well will be discharged overboard.

### Decommissioning of PA-B platform

The primary goal of the Decommissioning Phase of oil-gathering installations is to restore the initial condition of the water area and seabed, which characterised that area prior to platform construction and hydrocarbon extraction, or to bring the area into such a condition corresponding to the further employment of the water area.

In some cases it is expedient not to decommission the offshore structures but to use them for sea farming, for instance.

Due to long-term operation of the offshore platform for industrial hydrocarbon extraction the engineering solutions for the decommissioning phase shall be specified within the framework of a separate project and within the terms of actual completion of activities at the PA-B platform.

Regardless of the type of decommissioning activities chosen all wells drilled from the platform shall be brought into stable and safe condition in accordance with the industry requirements.

### LUN-A PLATFORM

The Lun-A platform will be located in the Lunskoye oil and gas field at a water depth of about 48m at a point with the following coordinates: latitude 51° 24' 55" N and longitude 143° 39' 44" E. The Lun-A platform is an operation-and-drilling platform. The platform is designed for year-round operation.

Seismic activity has been taken into account in the design. The Lun-A platform has been designed to have a maximum annual output of about 19 billion m<sup>3</sup> of gas and approximately 2.9 million m<sup>3</sup> of condensate and oil.

The gas condensate and gas produced at the Lun-A platform will be transported to the onshore processing facilities via two multiphase pipelines. An offshore pipeline will be used for the recycling of regenerated monoethylene glycol from the OPF to the Lun-A platform.

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The topside of the Lun-A platform is designed as an integrated deck installed on a gravity base. The concrete base is itself a foundation block with four cylindrical supports. The upper structure will accommodate the wellhead equipment, accommodation facilities for the personnel, main and auxiliary equipment, and a helicopter pad. The design of the platform and the main and auxiliary equipment will be similar to that of the PA-B platform.

### Construction Period of Lun-A Platform

Towing and installation of the Lun-A platform, preparation work and protection of the base against washout will be performed in a similar manner as described for the PA-B platform.

### Commissioning Period of Lun-A Platform

The Lun-A platform will be commissioned after mechanical completion and installation activities. Two supply ships will be required for delivery of equipment and materials during the pre-commissioning period in 2005. It is assumed that MI-8 helicopters will make on average two flights per week during the commissioning period.

### Operation Period of PA-B Platform

The Lun-A platform will have 27 well slots for production wells, with a maximum of 21 producing wells at any one time. Drilling of the first well from the Lun-A platform is planned in December 2005. The well design provides for a possibility to re-inject drill cuttings when using oil-based muds. Water based muds from the conductor string for each well and the first four wells will be discharged overboard.

### Decommissioning of Lun-A platform

Decommissioning of the Lun-A platform is similar to that of the PA-B platform.

### PLATFORM SPECIFIC SAFETY MEASURES

All platforms have well safety systems designed to provide a high level of security against well blowouts. The design principle is to provide a tiered system of fail safeguards and response capacities. The first tier of protection is provided by routine well planning, management and monitoring to foresee, detect and manage pressure changes via the normal operating process.

Additional back up is provided by features such as: Surface and subsurface emergency shutdown valves; Blow out prevention equipment; and well kill facilities (lines and pumping facilities for heavy/dense inert fluids designed to counter well pressures by imposing an increased hydraulic head).

### OFFSHORE PIPELINES & POWER / COMMUNICATION CABLES

Hydrocarbons produced from the oil and gas fields will be transported from the three offshore production platforms (PA-B, the existing PA-A and Lun-A) via offshore pipelines; which include:

- 58.5km of pipelines for oil and gas from PA-A and PA-B platforms to shore,
- 2 x 13.5km of multiphase pipelines from the Lun-A platform,
- One 13.5km line for the transportation of monoethylene glycol (MEG) from the OPF to the Lun-A platform, and
- An oil export pipeline of 4.8km between the OET and TLU in the south.

Combined power and communication cables will be provided from the OPF to Lun-A platform and from the OET to the TLU facility in Aniva Bay.

### APPENDIX F-03: ONSHORE FACILITIES

The onshore facilities will comprise:

- An integrated onshore processing facility (OPF) with the first (No.1) pump/compressor station for processing of gas and condensate from the Lunskeye field and subsequent transportation to the oil export terminal and the LNG plant,
- A gas disposition terminal (GDT) near Boatasyn for the transfer of gas into the existing gas distribution network on Sakhalin Island,
- An onshore pipeline system, and
- A second (No.2) pump and compressor station for pumping crude oil and compressing gas.

#### ONSHORE PROCESSING FACILITY (OPF)

The OPF will be located close to the eastern coast of Sakhalin Island approximately 40km to the east of the town of Nysh. The OPF is located at the 7.0km mark of the onshore pipeline from the Lunskeye field (7km from the coast) and 20.6km west of the Lun-A platform. It has the following coordinates: latitude 51° 25' 03'' N and longitude 143° 21' 32'' E.

The OPF will be located in an elevated area. A major part of the site is an open swampy area, scarcely populated, with low vegetation and a small number of trees. Areas at the western and southern borders are characterised by steeper slopes and are covered by thick forest. At present there are no residential areas or any infrastructure facilities in the vicinity of the OPF site. The nearest road is 20km from the site.

The OPF is where the produced gas and liquid hydrocarbons from the Lunskeye field is received, separated and further processed for pipeline transportation. The Lunskeye field will produce primarily gas condensate, but also oil from the oil rim of the field. Since the produced gas from this field is saturated with water, water condensate will be also delivered to the OPF mixed with monoethylene glycol (MEG), which will be injected at the offshore platform into the pipeline to prevent hydrate formation.

The Lunskeye production will arrive at the OPF via two multiphase on and offshore pipelines and will be received by dedicated (one per train) inlet vessels. The product condensate from OPF will be pumped into the crude oil pipeline for transportation to the Oil Export Terminal (OET) located at a distance of about 636km to the south of the OET on the south coast of Sakhalin Island. The gas is compressed into the gas export line for shipment to the LNG Plant located next to the OET.

The facility is stand-alone with all the required utilities such as electrical power generation, water, fuel gas, instrument air and all the necessary plant support facilities such as buildings and roads.

The OPF facilities will be designed to supply power to the Lun-A platform. Two separate power cables will be installed for this purpose. Infrastructure will be provided at OPF for the future control of the Lun-A platform. The OPF will have wastewater collection, treatment and disposal facilities.

#### Construction Period of the OPF

The OPF will be constructed in two consecutive phases in accordance with the scheduled increase in LNG plant capacity. The first OPF train will be designed for treating gas for the first process train of the LNG plant. For the second phase, a second OPF train will be commissioned to serve the second train at the LNG plant.

The OPF facility will also include the No.1 booster station, which will provide compression of pre-treated gas from the Lunskeye field, as well as gas supplied from the Piltun-Astokhskeye field for its further shipment via the gas pipeline. The OPF condensate stream from Lun-A will be combined with the oil from the Piltun fields and pressurised at the booster station for further transport via pipeline to the OET.

For the construction of the OPF, material will be offloaded by means of a temporary off-loading facility to an adjacent beach landing facility. From there they will be transported via a heavy cargo haul road to the OPF site.

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### GAS DISPOSITION TERMINAL

The gas disposition terminal (GDT) will be designed to reduce the gas pressure and supply the gas to the gas pipeline system of the “Rosneft-SakhalinMorneftegaz” Company (SMNG). The GDT site is located in the Nogliki District near the village of Boatasyn. In the north the site adjoins the Okha-Komsomolsk gas pipeline and in the east the right-of-way for the Sakhalin II pipelines.

The site is located about 41 km from the pipeline route from the Piltun-Astokhskoye field in an uninhabited area. The site has an area of 1.3 hectares and is located at the water divide of the Val and Handuza river systems, but the site itself is outside of the river protection zones. The nearest streams are at a distance of 0.5 km to 0.9 km from the site; the largest nearby stream is the Handuza River.

During the construction period, construction workers will be accommodated in a provisional camp in the vicinity of the town of Val and they will be brought daily to the construction site. Potable and industrial water will be brought by tank trucks and stored in water storage tanks. No wastewater treatment facilities have been planned.

No housing facilities will be provided for the operating personnel during the operation of the GDT, as the facility will be remotely operated from the Asset Operation Centres located at the OPF and OET/LNG.

The following additional safeguarding details apply to the GDT: Flow control (Tank overflow protection); leak detection system; dike containment; and fire protection.

### ONSHORE PIPELINES

The system of onshore pipelines will include the following pipelines:

- A 808 km oil pipeline from the Piltun Landfall to the Oil Export Terminal (OET) via oil pump stations,
- A 808 km gas pipeline from the Piltun Landfall to the LNG Plant via the GDT in Boatasyn and gas compressor stations,
- Two 7.5 km multiphase pipelines and MEG lines from the Lunskeye Landfall to the OPF site, and
- Oil loading lines from the OET to the offshore section of the pipeline.

### Gas Pipeline Route and Compressor Stations

Gas produced at the offshore platforms in the Piltun-Astokhskoye field will be delivered to the coast via two offshore pipelines from the PA-A and PA-B platforms, which will merge via the onshore manifold to one onshore gas pipeline. This pipeline will run for 41 km southward to the gas disposition terminal in Boatasyn.

Then it will run further southward bypassing the town of Nysh and turning eastward to the OPF site. The overall distance from the GDT to the OPF is about 132 km. From the OPF a gas pipeline runs back towards a point just south of Nysh and then proceeds in a southerly direction for a total distance between the OPF and the LNG plant of 636 km.

The first compressor station will be located at the OPF site. The location of a second compressor station is currently planned mid-distance from the OPF and the LNG Plant (about 319 km from the OPF near the town of Gastello). The overall length of the onshore gas pipelines will be approximately 808 km. The oil and gas pipelines share the same corridor.

### Construction Period of the Onshore Pipelines

The standard method for construction of onshore pipelines is the “spread” technique. A spread is defined as the manpower and equipment necessary to carry out construction from surveying the route at the start of construction through to restoration works at the end of construction.

The work is conducted on a moving assembly line basis with each sequential activity maintaining a constant rate of progress. The rate at which the spread advances is determined by the nature of the terrain, the frequency of special sections, such as natural (for example river crossings) and man made obstacles and other factors.

In addition to the main spread teams, other teams may be mobilised to undertake special activities such as road and river crossings, which require some variation in standard methods. In sections of particularly sensitive environment, modifications may be made to standard spread techniques and to timing of construction with a view to mitigating environmental impacts.

In general, the teams operating along the construction spread comprise those involved in: Preparation of the right-of-way strip (clearing and grading); pipe trench excavation; welding and laying of pipes; backfilling of trenches; and reclamation of disturbed land.

All construction activities are undertaken within a strip referred to as the right of way (ROW). The ROW will range from 36m to 63m depending on the pipeline diameters and it may be increased adjacent to watercourse crossings. The ROW will be cleared of trees, shrubs, and brush that will be disposed of according to approved procedures.

The grading operation will prepare the ROW for trenching and pipeline installation by cutting and filling to the proper profile and cross slope (depending on the season). Erosion control measures will be installed (e.g. embankments, brush piles or silt fencing) where required.

### Construction Design

The Sakhalin II project requires the installation of separate oil and gas pipelines from the north to the south of Sakhalin Island. For reasons of pipeline security, harsh climatic conditions, and public safety reasons, all pipelines will be buried to a depth of approximately one metre, in accordance with Russian Federation requirements and normal industry practice. Pipeline valves will be installed within the oil and gas pipelines at approximately 30km intervals and at seismic fault crossings. On the oil lines, valves are also placed at major and sensitive river crossings and near settlements.

The pipelines will have varying wall thickness based on safety classifications. In general pipe wall thickness is increased at river, road and railway crossings, near to settlements and facilities and at seismic fault crossings. The oil and gas pipelines will be laid within the same ROW, and in accordance with Russian Federation requirements.

### River and watercourse crossings

The pipeline ROW will cross some 1,103 watercourses. A classification of the watercourses to be crossed (for salmon spawning and migration sensitivity, as well as for physical and hydrological characteristics) was carried out based upon a compilation of available information and existing regulatory requirements for the environmental protection for fish resources (refer to EIA for details).

Six watercourses greater than 50 metres wide shall be constructed by a horizontal directional drilling method (HDD), namely the Tym, Naiba, Vazi, Tym (2nd crossing), Buyuklinka and Firsovka. This involves drilling through the bedrock beneath the river. The remaining watercourses will be crossed by open trenching. Refer to the EIA for a more in-depth technical appraisal of the river crossing strategies.

### Specific Safety Measures

The following additional safeguarding details apply to pipelines:

- Emergency shutdown systems,
- Seismicity risk applied to design,
- Pipeline block valves will be located near major onshore fault crossings,
- Leak detection system, and
- Pipeline Emergency Response Centres.

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### NO. 2 PUMP AND COMPRESSOR STATION

The No.2 pump and compressor station (Booster Station No.2) is located approximately in the middle of the pipeline between the OPF and the oil export terminal/LNG plant site. The station comprises oil booster pumps, its auxiliaries and gas compressors. This facility will be constructed for when the oil flow rate exceeds approximately 140,000 BOPD or when the second LNG train is in operation, whichever is first.

Stabilised oil from the No.1 booster station will be sent to oil booster pumps with gas-turbine drives. Under the normal operating conditions the turbines will be fired with gas. The Booster Station No. 2 will also serve as a Pipeline Emergency Response Centre.

#### APPENDIX F-04: LNG PLANT, OIL EXPORT TERMINAL AND TANKER LOADING UNIT

The liquefied natural gas (LNG) plant and the oil export terminal (OET) will be located not far from Prigorodnoye in the direct vicinity of one another.

##### LNG PLANT

The LNG plant will be located in the Korsakov District of Sakhalin Oblast on the coast of Aniva Bay between Mereya River and Goluboi Creak, near Prigorodnoye, 13 km east of Korsakov and 53 km south of Yuzhno-Sakhalinsk. The Oil Export Terminal (OET) will be adjacent to the LNG plant. The area of the fenced plant site will be 112.6 hectares.

The allocated site currently includes the following existing facilities: public beach; border guard station; a private farm; a fishing company "Lenbok Ltd."; a section of a road Korsakov-Novikovo (the distance from Korsakov to the site is 9.6 km) (this road will be relocated); and farming and forestry land.

A water intake station to the north of the plant site is planned for construction, at a distance of 6km on the bank of Mereya River. This will supply freshwater to the LNG plant and the OET.

The LNG plant will receive gas from the Piltun-Astokhskoye and Lunskeye fields. Associated gas from the Piltun-Astokhskoye field and natural gas from the Lunskeye field will be treated at the integrated onshore processing facility (OPF), which will be built as part of the upstream facilities of the Sakhalin II Project. Gas from the OPF will be transported via a pipeline equipped with compressor stations to the LNG plant.

The LNG plant is designed to process any blend of gases ranging from rich gas from the Piltun-Astokhskoye field through to lean gas from the Lunskeye field. Gas preparation, processing and liquefaction at the LNG plant will be performed in two parallel LNG trains. Construction of the second train is planned for a later period, i.e. after the first train is put into operation.

The capacity of the LNG plant with respect to feed gas treatment in two trains will be 13.8 billion m<sup>3</sup> of gas per year. The average daily capacity of a single process train will be about 14,700 t of liquefied natural gas. Liquefied natural gas will be sent to the LNG storage tanks each with a working volume of 100,000 m<sup>3</sup> and then shipped to consumers by special LNG carriers. During the periods of maximum LNG production it is planned to load one vessel every two days and the loading cycle duration will be up to 16 hours.

Stabilised condensate produced in the LNG process trains will be sent to the OET. The LNG plant will operate on a continuous basis.

##### OIL EXPORT TERMINAL

The Oil Export Terminal (OET) will be supplied with crude oil and condensate from the Piltun-Astokhskoye and Lunskeye fields, and with condensate from the LNG plant. The OET will share a site with the LNG plant (to the east of the latter), and will cover an area of 45 hectares. The OET provides oil storage to assure continuous pipeline operation and ready volumes for tanker loading. The OET will be connected by subsea pipeline to the TLU facility for tanker loading.

Crude oil and condensate from the offshore platforms will be transported via the onshore pipelines at a rate of approximately 31,000m<sup>3</sup>/day. In addition, about 800 m<sup>3</sup>/day of gas condensate will be supplied from the adjoining LNG plant. Gas condensate will be mixed with crude oil downstream of the crude oil pipeline receipt meter prior to going to the storage tanks. The design throughput of the OET is 31,800m<sup>3</sup>/day.

The OET will have three oil storage tanks, four loading/transfer pumps rated at 33% of the design loading flow, inlet metering, commercial export metering units and utility facilities and networks. As an additional protection, secondary containment bunding will be provided around each tank with a capacity of 110% of the tank content. A tertiary containment dike encompasses the entire storage area.

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To prevent discharge of polluted wastewater, a common segregated drainage and primary wastewater treatment system will be provided for the LNG and OET. The following additional safeguarding details apply to the OET: tank overflow protection; leak detection system; dike containment; and fire protection.

### TANKER LOADING UNIT

The TLU will be located in Aniva Bay, offshore from Prigorodnoye, where the LNG Plant and the onshore facilities of the OET will be constructed. It will have a footprint of approximately 2500m<sup>2</sup>. The distance from the TLU to the coast is about 5km. The TLU coordinates are latitude 46° 34' 42" N and longitude 142° 55' 30" E.

In order to ensure sufficient depth permitting full load of tankers, the design water depth at the TLU is approximately 29m (at lowest astronomical tide). The TLU location was selected based on navigational criteria and current knowledge of the seabed conditions.

It is planned to construct the TLU for oil export, which will be connected by a subsea pipeline from the OET. The TLU will be designed to handle conventional crude oil tankers without specialised vessel loading equipment during the ice-free season. However, it is anticipated that during the ice season, specialised tankers equipped for bow loading will be required. The terminal will be designed to allow the complete loading operations including mooring, loading and leaving the mooring within 24 hours, in line with other loading terminals.

### Construction Period of the TLU

Transportation of the TLU to the prepared site will be made with the aid of tugs and its positioning will be ensured in accordance with the design documentation by means of a large floating crane to ensure adequate stability. The tanks will be filled with solid ballast. The final stage will be the placement of scour protection materials to prevent washout of the seabed at and around the base of the TLU structure.

Electric power supply and technical maintenance of the TLU, including preventive maintenance and repair, will be provided from the onshore facilities of the OET. Power will be supplied via a subsea cable line laid along the oil pipeline.

### Commissioning of the TLU

Commissioning of the TLU in the third/fourth quarter of 2005, depending upon the availability of power supply from the shore.

### Operations Period of the TLU

The oil loading procedure is as follows: a tanker will be moored to the TLU, the oil hose is suspended from a crane boom and will be connected to the tanker at the midship or to the bow-loading system. The suspension of the hose minimises its potential wear by friction against the ship hull or other objects.

The TLU design does not include facilities for handling dirty ballast water from tankers, nor vapour return. All arriving tankers will comply with MARPOL segregated ballast requirements. VOC (Volatile Organic Compounds) released during tanker loading will be emitted to the atmosphere.

### Decommissioning of the TLU

Taking into consideration a long service life of the TLU, the development of firm engineering and technical solutions for its decommissioning will be undertaken as a separate project at a time closer to the actual termination of the operation of the offshore facilities. It will be carried out in accordance with the Russian Federation legislation, and will take into account local socio-economic considerations and environmental factors.



## APPENDIX F-05: INFRASTRUCTURE UPGRADE PROJECT

Major oil and gas developments need significant infrastructure and services to support the construction and operations of the main plant and pipelines described in the preceding chapters. Sakhalin Island is a largely developed territory however it is also thinly populated and its infrastructure is currently not fully suitable for supporting the planned level of onshore and offshore oil and gas development. The heaviest use of the infrastructure will be during the construction phase however the majority of the upgrades have a design life longer than 10 years.

Much of the repair and upgrade work will be carried out by the responsible authorities rather than contractors directly employed by SEIC. In addition the locations and in many cases the works themselves will remain accessible to the public and will be carried out in accordance with the appropriate Russian laws. In such cases, SEIC has only limited legal control or responsibility of the public assets or projects and as a private company cannot legally enforce its own HSE policy and system onto the works.

The logistic plan of the project requires that a large number of lengths of pipe be delivered, prior to the construction phase, at various ports and offloading facilities on Sakhalin. Furthermore, construction equipment, consumables such as fuels and lubricants, chemicals, and food will be imported to the island.

All this material must be transported from the point of entry (by sea or air) to its destination point. Dedicated areas will be constructed at these entry points to await clearance by customs, if necessary. Transport routes on the island will be mainly via road or rail, occasionally by air or sea. Transport routes on the island should ensure a safe all-year transport network.

The transport routes will be used regularly throughout the construction period to distribute supplies, move construction materials and equipment along the pipeline route, transport labour etc. Upon completion of the construction phase, some equipment has to be transported back to the ports. After the construction period, a part of the transport infrastructure will not be used, such as dedicated access roads. Third parties will continue to utilise these and other assets.

SEIC is investing in services, new infrastructure, repairs and upgrades in order to support its operations. The civil engineering work is labelled as the Infrastructure Upgrade Project (IUP). In many cases this work will be done on public or publicly used assets (such as road bridges) and so SEIC is working in a partnership approach with the local authorities responsible for the infrastructure.

The key elements of the IUP are as follows:

- Upgrade of the fishing port at Kholmsk,
- Development of existing and/or new quarries,
- Upgrade of existing rail facilities at Nogliki and Kholmsk,
- Replacement of 12 road bridges,
- Repair of 47 existing road bridges,
- Construction of 16 new road bridges,
- Upgrade of 184km of existing road,
- Upgrade of 232 culverts,
- Construction of access roads – 45km new, 78km repair, replace/repair bridges and culverts on 245km temporary access roads, and
- Five temporary camp facilities.

## Appendix F Project Description

### Construction Camps

During the construction period, the main camps housing construction workers will be located where major onshore civil construction works will be undertaken, namely near the OPF in the northern section of the pipeline; and the LNG/OET at the southern end of the pipeline. The camps will be installed prior to the construction period of these assets.

A number of temporary campsites will be also erected to facilitate the construction phase of the pipeline. These camps will be located along the pipeline route at more or less regular intervals. The campsites are designed to offer accommodation and all supporting facilities for the pipeline construction teams, which is provisionally divided into five construction spreads. Each spread will have its own construction team.

The campsites will include accommodation units, catering units, medical units, as well as a water supply and distribution system, and a wastewater collection, treatment and disposal system. There will be an onsite temporary waste storage, fuel will be stored and generators will be operated. The sites will have vehicle access to the main road, a helicopter pad for emergency use and a peripheral security fence.

Refer to the EIA for more information on the technical details of the IUP.