



TRANSSAKHALIN PIPELINE SYSTEM

Location and Function

The TransSakhalin pipeline system together with the offshore pipeline system is used for the transportation of hydrocarbons from the Piltun-Astokhskoye (PA-A and PA-B platforms) and Lunskoye (Lun-A platform) fields in the north of Sakhalin Island to the Onshore Processing Facility (OPF) in the Nogliki district, and to the LNG plant and Oil Export Terminal (OET) in the south of Sakhalin Island (Aniva Bay).

The offshore pipeline is some 300 km long, the onshore system is some 1,600 km (two pipelines about 800 km long in one corridor).

River Crossings Construction

The onshore pipeline system crosses more than 1000 water courses, over 150 of which are ecologically vulnerable water courses of commercial fishing importance. To ensure minimum and short-term impact, construction of the crossings over these



construction of the crossings over these rivers was only carried out in the winter periods when the rivers freeze over and the water current is minimal.

Construction of Fault Crossings

The onshore pipeline system crosses 19 seismic faults. Separate unique solutions were developed for the construction



of each of these crossings taking into account all specific factors.

The trenches are laid in such a way that in the case of a seismic fault displacement, the pipelines move freely ensuring they are not overstressed and will not break. A special material is used for back filling (light expanded clay aggregate and selected sand), and a complex drainage system is installed that excludes ice formation in the trenches and helps to ensure free movement of the pipes.

Erosion Prevention and Soil Reinstatement

While construction is ongoing, temporary erosion control measures are applied. Following the completion of construction, permanent reinstatement is carried out. The majority of this is performed from May through November and includes engineering and biological methods such as levelling the Right of Way (pipeline corridor), slope profiling, installation of slope breakers, drainage, silt collectors, planting and stabilising river banks using Reno mats and gabions, etc.

Additional Facilities

Along the TransSakhalin pipeline system, the following facilities are installed:



- Five pipeline maintenance depots;
- Five pig launcher and receiver stations for cleaning and diagnostics;
- 104 block valves on the oil pipeline;
- 47 block valves on gas pipeline.

Each block valve station contains control instrumentation and remote measurement equipment which transmits information to the control room at the Onshore Processing Facility allowing the valves to be remotely activated in an emergency situation.

