



Nearshore wind and wave climate and ice conditions at Prigorodnoye, Russia

At Prigorodnoye, on the island of Sakhalin (Russia), north of Japan, an LNG export terminal is planned. Loading of LNG carriers will take place at an open jetty which is subject to wave action in Aniva Bay and to ice formation during the winter season. The hydraulic and ice conditions for the berth construction (jetty) and the operational downtime of the berth are important parameters in the design process

The study comprises the determination of long-term wind and wave statistics at a nearshore location near Prigorodnoye, making use of:

- 1-year site measurements of wind and waves
- long-term model output (wind and waves) from a large scale ocean wave model translation of the ocean model wave output towards the nearshore location with a shallow water wave model (SWAN)

Furthermore, determination of the ice conditions in Aniva Bay for jetty design purposes as well as a statistical description of shipping delays due to ice, making use of 42 years of ice charts.

Special attention was paid to the persistency of bad weather conditions, i.e. the probability of continuous bad weather for several days.

Client
Sakhalin Energy Investment Company Ltd.

Location
Prigorodnoye, Sakhalin, Russia

Date
1999 (study)

Services
Determination long-term wind and wave statistics, determination ice conditions

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