

Wallingford, 24 August 2005

FUGRO GEOS PLAYS VITAL ROLE DURING SAKHALIN II TOW-OUT

Real time information on weather, waves, current profile and water level are vital during complex marine operations, which is why Fugro Global Environmental & Ocean Sciences (Fugro GEOS) has played a key role during the tow-out, positioning and installation of two concrete gravity base substructures (CGBS) for the Lunskeye A (LUN-A) and Piltun-Astokhskeye B (PA-B) platforms for the Sakhalin II Phase 2 Project for Aker Marine Contractors. This is thought to be the biggest single integrated oil and gas project ever undertaken.

Phase 2 of the Sakhalin II Project entails the further development of the PA field – an oil reservoir with associated gas – and the development of the Lunskeye field – a gas reservoir with associated condensate. Both CGBSs, amongst the largest concrete structures ever built in Russia, were towed from the dry dock at Vostochny near Vladivostok to their installation positions off the north east coast of Sakhalin Island.

Fugro GEOS played a key role during the tow-out, the Weather Forecasting Division supplied senior meteorologists to provide real time weather information. They were based onshore for the tow from the port to the holding area and then accompanied the tow based on a support vessel. The Measurement Division was involved in measuring waves, current profile and water level during the tow-out and installation of the two gravity based platforms. Both were contracted to Aker Marine Contractors. *(Note to Editors: jpegs of tow-out available – see note at end of release)*

The meteorological task

“The most critical part of the meteorological operation was moving from the port to the holding area,” explains Fugro GEOS weather forecaster, Hong Wang. “The weather criteria was very low, less than 0.5 metre significant wave height and less than 10 knots of wind. The meteorologists’ services were in heavy demand during this period as any unforeseen changes in the weather would need to be quickly and carefully managed. Once the structures were at the holding area the meteorologists joined a supply vessel to provide ongoing weather coverage for the tow and final positioning on site.

“Naturally, the installation phase was highly weather-sensitive too,” he adds. “Wind and waves were key issues and forecasting them correctly was one of the major tasks, critical to accurate decision making. The data provided by our Measurement Division at the installation site enabled us to closely monitor wave conditions, gain a better understanding of what was happening and thus provide a thoroughly realistic forecast. Teamwork between our divisions

enables us to deliver a highly professional service to our clients.

“We were pleased that the Aker team found our ‘Operational Safety Forecast’ invaluable. They used it for planning their operations and preferred it to using the standard tabular form of graphic forecasts. They found it gave them a better and easier ‘view’ of the forecast as it was tailored specifically to their various operations and operating criteria.”

Measuring sea states

The Measurement Division had a 5-month contract with Aker Marine Contractors to build up a complete understanding of waves, current profile and water level that could be expected during the tow-out and installation of the two CGBSs.

“The current profile and sea elevation were measured by a bottom mounted ADCP (Acoustic Doppler Current Profiler) and pressure sensor,” explains Jan-Petter Mathisen, the Fugro OCEANOR project manager responsible for this measurement contract. “During the towing operation the data were transmitted by means of an electrical cable to a SEAWATCH mini buoy, which measured wave directional parameters. All data were then transmitted to one of the towing vessels by the Inmarsat satellite system and presented by our StationGuard software. The measurements were carried out at two locations at water depths of 30m and 50m. We also ran a complete backup system. “

“This is very much ‘tried and tested’ technology which we have used for projects such as the dismantling of a North Sea platform for Aker Marine Contractors. Since then we have carried out similar projects with Aker Marine Contractors so they know the technology and have confidence in our ability.” (*Further note to editors: jpeg of buoy system also available – see note at end of release*)

And more involvement with Sakhalin II

Yet another division of Fugro has had an involvement with Sakhalin II. Fugro’s Seasystems division won a contract over a year ago for the manufacture and delivery of CCTV and EMS (Environmental Monitoring Systems) with ABB AS, Automation Technologies Division; and earlier this year (2005) they won an extension. The new contract was for a LAN based CCTV system for general surveillance of the LNG Terminal at Sakhalin Island. The Fugro OCEANOR CCTV range comprises their much-used Crane Boom Camera System and a range of Surveillance Camera Systems for both safe and hazardous areas including their recently launched CCTV Explosion Proof Camera Station.

Information on Fugro GEOS is available from Fugro offices worldwide and from specialists in each division:-

- Weather Forecasting: Rob Cowle, r.cowle@geos.com
- Oceanographic measurement: Louise Ledgard, l.ledgard@geos.com
- CCTV Cameras: Kjetil Oxnevad, k.oxnevad@oceanor.com

Further information on all aspects of Fugro GEOS activity can be found at www.geos.com.

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For further press information, photographs of the tow-out and a jpeg of the diagram of the buoy system used for the Sakhalin project, please contact:

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