Langeled hits land

As OE went to press the landfalls for the Ormen Lange Langeled pipeline, the longest subsea pipeline in the world, were nearing completion in Norway and England.

At Nyhamna on the island of Gossen in mid-Norway, Allseas pipelay vessel Solitaire completed the pull-in of three pipelines in mid-July to be connected to the onshore gas processing plant being constructed at Nyhamna, which will treat the gas arriving from the subsea Ormen Lange gas field located some 120km to the northwest. According to field development operator Norsk Hydro, the vessel successfully pulled in 33km of pipelines, including the two incoming 30in diameter gas lines from the field plus the 42in diameter northern leg of the main export pipeline.

Meanwhile landfall work was approaching its conclusion at the other end of the 1200km-long pipeline at the Easington terminal near Hull on the east coast of England – the UK will be the primary consumer of Ormen Lange gas over the next 50 years, beginning in October 2007.

The UK landfall has involved significant preparatory work inshore and for the shore crossing. The 44in diameter gas line approaches the shore in a pre-excavated offshore trench some 20km long and 1.5-2m deep, sited between two existing pipelines. For the shore crossing, a 240m long cofferdam and a temporary beach platform were constructed to provide access to the intertidal zone to a tie-in pit, where the offshore pipeline section is connected to the onshore section. Unstable cliffs in the coastline at Easington are subject to high erosion, the land retreating at around 1-2m per year. To avoid this and to minimise disturbance at the cliff face, the landfall project has built a 380m long, 2m diameter curved tunnel beneath the cliff to contain the pipeline on its route from the beach into the terminal. The pipeline and tunnel will be buried and all beach construction work and access roads removed to restore the area to its natural state.

The onshore and offshore sections of the pipeline were joined in a temporary tie-in pit on the beach. The main contractor for the onshore works is Jan de Nul, whose subsidiary European Dredging Company excavated the offshore trench using a cutter section dredger, and is also responsible for backfilling the trench using a trailer suction hopper dredge. The company also carried out pre-sweeping of sand dunes and gravel dumping at the Langeled-Cleeton pipeline crossing.

Allseas shallow water laybarge Tog Mor, anchored some 400m offshore, laid the pipeline into the trench. Winches were used to pull the line from the barge into the cofferdam and up to the tie-in pit. Tog Mor continued to lay the pipeline offshore for 15km, and was expected to complete this section by the end of July, from where Stolt Offshore’s lay vessel LB200 will continue the laying process to complete the 540km long southern leg of Langeled to the Sleipner platform, the junction for Langeled’s southern and northern legs.

The southern leg of Langeled is scheduled to come into service in October 2006, initially transporting gas to the UK from the Troll and Sleipner fields prior to the startup of Ormen Lange.

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