

**19 February 2007
Nippon Steel Corporation**

Nippon Steel, Awarded UO-Pipe Orders for Ultra-Deepwater Gas Pipeline in Mediterranean Sea

Nippon Steel has been awarded, jointly with Mitsui & Co., LTD. the contract for a high-strength UO-pipe (large-diameter welded pipe) for Ultra-deepwater service for the natural-gas transport pipeline connecting Spain and Algeria. This pipeline, to be laid across the Mediterranean Sea at depths reaching a maximum of 2,160m, is to be the world's first case of high-strength X70 grade UO-pipe being used for such great depths.

The Pipeline, used to transport natural gas from Algeria/(SONATRACH) in North Africa to Southern Europe, via the Mediterranean Sea, over a total distance of 226km, is given the status of a strategic and indispensable project, particularly for Europe, for the stable procurement of natural gas and CO₂ reduction in line with the Kyoto Protocol. The project owner is MEDGAZ, a consortium of 5 international companies which is expected to lay the pipeline from 2007 into the first half of 2009, with natural-gas supply commencing in around mid-2009.

The large-diameter welded pipe to be used for this pipeline totals about 90,000 tons, of which the majority, about 50,000 tons, including the pipe for the deepest section of the route, will be Nippon Steel's UO-pipe. The UO-pipe will be manufactured at and shipped out from Nippon Steel's Kimitsu Works, beginning in April of this year. As the pipeline to cross the Mediterranean, this pipeline goes to the deepest section, which is unprecedented in the world of UO pipeline installations, under very difficult conditions. For service under such severe environments, the steel pipe must satisfy a very challenging combination of requirements (note-1), and show conflicting properties: namely, high collapse resistance (note-2) through high strength of steel and heavy wall thickness of the pipe to withstand extremely high water pressures (note-3) at a depth of 2,200m, on the one hand, and low-temperature toughness (note-4), to avoid succumbing to currents, disturbances in the earth's crust, etc, on the other. The award of this contract by MEDGAZ is seen by us as clear recognition of the high quality reliability of the performance-proven UO-pipe and the outstanding R&D strengths of Nippon Steel.

It is our desire and aspiration to continue to offer material solutions through the supply of pipe products capable of advanced functions under stringent service environments, such as deep seas, frigid regions, steep terrains, etc., based on our technological superiority and long years of accumulated

advantage, thus contributing to the development of global mineral resources and energy sources.

Note-1: A combination of characteristic properties

Heavy wall thickness of the pipe plus high strength steel needed to withstand the enormous deepwater pressures conflicts with the toughness of steel. To obtain the required characteristics by unifying the seemingly conflicting properties of strength and toughness, advanced combination technologies are needed. Due to such technological difficulties, grades up to X70 of Nippon Steel and other mills have been used for the line pipe of the existing undersea pipelines.

(For overland pipelines, X80 and over have rapidly come into use.)

Note-2: Collapse resistance

The deep-sea bed is under extremely high water pressures, making it necessary to increase the strength and wall thickness of the pipe to prevent it from collapsing.

Note-3: Ultra-high water pressures

About 220 atmospheres (about 2,280 tons/m²). Equivalent to the pressure of 380 African elephants, each weighing 6 tons, per square meter.

Note-4: Low-temperature toughness

Toughness is an index for steel's quality of being strong but flexible, yielding without breaking and resisting major impact. In cases where minuscule flaws exist in a material, whether or not a fracture occurs and whether or not a fracture, once occurring, propagates over a long distance, are dependent on the toughness of the steel concerned.

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