



■ Tanks



Reference Details:

Owner Ras Laffan LNG Company Ltd. (II) and Qatar Liquefied Gas Company Ltd. (II), Qatar
+++ General Contractor Chiyoda, Snamprogetti & Co., W.L.L., Qatar and Chiyoda-Technip Joint Venture, Qatar
+++ Contractor for tanks Ishikawajima - Harima Heavy Industries Co., Ltd. (IHI), Japan and Consortium Mitsubishi Heavy Industries Ltd. - Vinci Construction Grands Projects
+++ Sub-Contractor for tanks Kettaneh Construction W.L.L., Qatar



Use of DYWIDAG Post-Tensioning Systems in one of the world's largest natural gas liquefaction plants

Construction of 8 LNG tanks (Liquified Natural Gas) in Ras Laffan, Qatar

A giant gas field - the North Field - off the north coast of Qatar was discovered in the early 1970s. This gas field is the world's largest natural gas reservoir that is not related to the production of crude oil. The proven reserves in this field are approximately 25 trillion cubic meters. As a result, Qatar has the third largest natural gas reservoir after Russia and Iran and about 15.3% of the world's reserves. The continued substantial investments made by Qatar into the natural gas sector at an early stage in the field's development and the country's excellent position along the shipping routes of the Persian Gulf indicate that Qatar will soon become the largest natural gas supplier in the world. The natural gas from the North Field is processed in Ras Laffan, an industrial city located 80 km north of the capital of Doha that was established in 1997. Natural gas is pumped to Ras Laffan via a pipeline at the bottom of the sea. The overall capacity of the gas liquefaction plants in Ras Laffan is to be doubled to an annual capacity of more than 80 million tons of LNG in the next few years. Thus, with more than 300,000 barrels per day, Ras Laffan will become the world's largest gas-to-liquids (GTL) facility producing about one quarter of the world's LNG requirements. The liquefied natural gas is mainly exported to the USA, but also to Asia and Europe.

In 2005, a fourth gas liquefaction plant with an annual capacity of 4.7 million tons was put into operation on the premises of the Ras Laffan LNG Company (RasGas).

By 2010, 7 more gas liquefaction plants with an annual capacity of up to 7.8 million tons each are to be ready for production by RasGas and its sister company Qatar Liquefied Gas Company (Qatar Gas).

Many tanks are required to store the liquefied gas. To prestress these tanks, DSI supplied a total of 3,360 t DYWIDAG Multistrand Tendons for 8 of these new 140,000 m³ tanks from May 2003 to July 2006. The tanks have an outer diameter of 78 m and are about 40 m high. The 80 cm thick walls are horizontally post-tensioned using 19x0.62" DYWIDAG Multistrand Tendons, while 12 strand tendons Ø 0.62" were used for the vertical post-tensioning.

High-quality, cryogenic DYWIDAG Post-Tensioning Systems were installed into tanks No. 4, 5 and 6 of the Ras Laffan facility and into tanks No. 1, 2, 3, 4 and 5 of the Qatar Gas II plant for this significant energy supply project.