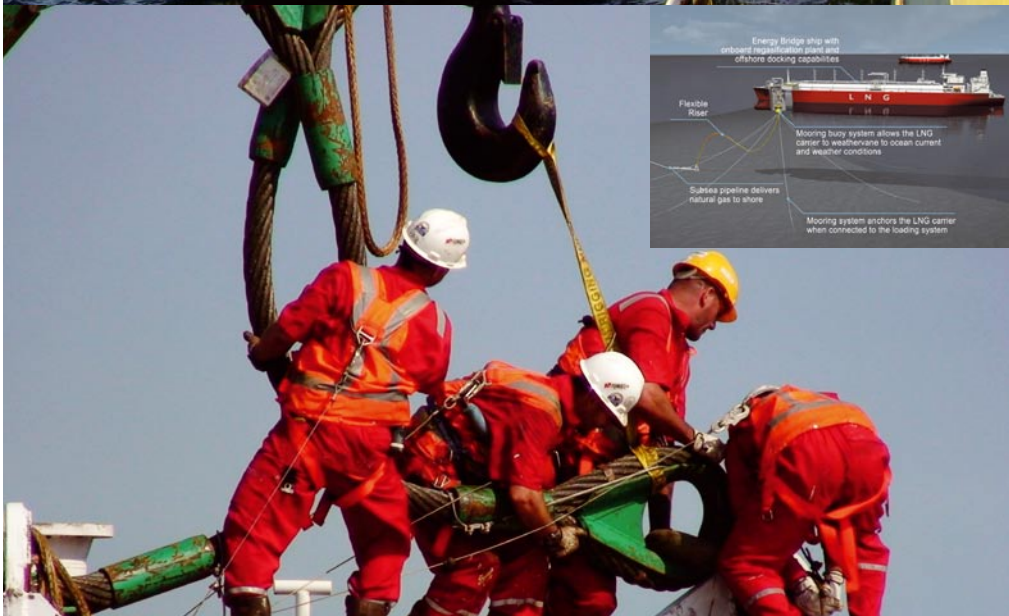


PROJECT FILE

JUMBO OFFSHORE PROJECT NORTHEAST GATEWAY



■ GENERAL

To meet the ever-increasing demand for gas in the northeastern region of the US, Excelerate Energy has constructed the Northeast Gateway Energy Bridge about 18 miles offshore Boston.

Specially designed LNG carriers will dock with one of the two APL submerged turret off-loading buoys (STL buoys) that will connect via flexible risers to a subsea pipeline system.

The STL buoys will be permanently moored offshore, floating about 30 meters below the surface. Upon arrival for off-loading, the LNG carrier will pull one of the STL buoys up into an opening in its keel and will make a secure connection. The LNG will be returned to its gaseous state and fed into the local gas distribution grid.

■ THE PREPARATION

In June 2007, the Jumbo Javelin arrived in Rotterdam for preparation and loading. The 8,000 meters of anchor chain (total weight about 3,000 tons) was loaded and spread over two levels in the vessel's large hold. The vessel's 900-ton cranes loaded the eight reels of spiral strand wire and the two STL buoys. The Jumbo Javelin's hold easily accommodated the materials with room to spare. The weather deck was kept free for loading the suction anchors later in Saint John.

■ THE JOB

On site, with strict safety precautions in place, the lift rigging was attached to the pad-eyes located on top of the suction anchor (up to 20 meters above deck). The anchor chain was routed out of the hold and connected to the suction anchor.

Prior to over-boarding each buoy, one end of each of the eight SSWs had to be attached to the turret underneath the buoy and the other end hung off from a spreader beam.

To facilitate handling of the stiff SSWs, a special method was developed, which involved placing the buoy outboard on supporting outriggers.

In order to prevent damage to the SSWs sensitive coating, each SSW was reeled off via a chute overboard and hung off underneath the buoy supports. Once completed, the vessel's 900-ton crane moved the 156-ton STL Buoy onto the outrigger structure.

Tugger winches pulled the SSWs up to make the connection to the turret. The buoys, with SSWs attached, were then lifted into the water and handed over to waiting tugs for connection to the previously installed suction anchors.

The installation of the largest-ever single compartment suction anchors was well suited for the incredible capacity and versatility of the mv Jumbo Javelin. From preparation and shipment out of Europe to completion offshore Boston, the project was completed safely, efficiently and on schedule.

PROJECT FILE

JUMBO OFFSHORE PROJECT NORTHEAST GATEWAY



■ THE CARGO

Jumbo Offshore used the DP2 Jumbo Javelin heavy lift vessel to transport most project materials from Europe to North America, and to assist in the installation of the largest single-compartment suction anchors ever installed.

Each 156-ton STL Buoy is held in place by eight mooring lines consisting of a 170-meter length of spiral strand wire (SSW) attached to the STL buoy and a segment of 5-inch (134 mm) chain attached to each suction anchor. The chain segments vary from 335 meters to 710 meters in length.

Different soil conditions and design loads at each anchor location mean that no two suction anchors are the same. The largest measures an astounding 14 meters in diameter and weighs 142 tons. The tallest has a height of 20 meters. The suction anchors were shipped directly from China to the staging post at Saint John, New Brunswick, Canada, but would require the Jumbo Javelin to be lifted and installed securely.

The Jumbo Javelin's large transport capacity and dual crane lifting capabilities create a unique, versatile working platform that can adapt to a multitude of offshore needs, from shipping to ROV operations, from chain laying to suction anchor installation.

