

FACT SHEET

November 2013

Pipe Laying

- Construction of the 1,224 kilometre long Nord Stream Pipeline started in April 2010.
- Three pipe-laying barges were commissioned to work on the project: Saipem's Castoro Sei – for the majority of the route in the Baltic Sea; the Castoro Dieci – for the shallow waters in Germany; and Allseas' Solitaire – for pipe laying in the Gulf of Finland.
- The first of the the two parallel lines was completed in May 2011 and started operations in November 2011. The second line was completed well ahead of schedule in April 2012. It became operational in October 2012.
- The two lines have the capacity to transport about 55 billion cubic metres (bcm) of natural gas per year, enough to supply more than 26 million European households.

Surveys

- Prior to construction, the seabed was thoroughly surveyed to ensure safe pipe laying.
- Where necessary, touch down monitoring with an remotely operated vehicle (ROV) was used to confirm that the pipeline is laid in exactly the right position.
- As-laid and as-built surveys confirm the pipeline position.

Pipelay Vessels

- The Castoro Sei carried out the majority of the offshore construction. The vessel started construction of Line 1 in April 2010 and finished pipe laying for Line 2 in April 2012.
- Allseas' Solitaire, a dynamically positioned vessel, was deployed for the construction of almost 350 kilometres of pipeline in the Gulf of Finland. The Solitaire worked on the first line from September 2010 until February 2011. It laid a short section of Line 2 in January 2011 and finished works in August 2011.
- Between July and October 2010, the Castoro Dieci constructed the shore approach of both pipelines in the shallow waters of Germany (nearly 3 percent of the pipeline).
- The pipelay vessels were manned and equipped to lay pipe 24 hours a day, 7 days a week.

Pipe-Laying Sequence on the Castoro Sei

- On the pipelay vessel, both ends of each pipe were beveled and cleaned in preparation for welding. Two 12-metre pipe joints were automatically welded together into a "double joint" after which ultrasonic testing ensured that the weld was flawless or would be repaired if necessary.
- The double joint was transported to the "firing line" where it was welded to the end of the pipeline. Each weld area was again meticulously examined by automated ultrasonic testing (AUT) in order to detect and assess possible defects.

- Once each weld was confirmed as acceptable, a corrosion-resistant heat shrink sleeve was applied around the entire circumference. To provide further protection, hardening polyurethane foam was filled into a mould surrounding the weld area.
- While the pipelay vessel moved, the completed stretch of pipeline ran down the stinger into the suspended span and subsequently came to rest on the seabed.
- Wherever necessary, the pipeline was placed into a pre-dredged trench to ensure stability and to protect it from environmental impacts such as ice and rough seas at the Russian landfall or against anchor impact in major shipping lanes. At the German and Russian landfall, the pipelay vessel was anchored about one kilometre offshore and the pipeline string produced on board was pulled ashore with a high-powered winch.
- The separate stretches of pipeline laid by the three vessels were joined into three continuous sections through a process called Abandonment and Recovery (A&R). During A&R, a watertight sealed 'head' of a previously laid stretch of the pipeline was pulled back up from the seabed onto the stinger of a pipelay vessel and new segments were welded to the recovered part. Nord Stream's construction plans proved to be resilient enough even to cope with periods of enforced downtime.

Safety & Environment

- An exclusion zone of up to three kilometres was maintained around any pipelay vessel.
- Stakeholders such as fishermen received weekly notifications of all planned and ongoing works, maritime authorities are regularly updated and environmental monitoring reports are submitted to the relevant authorities in line with the legal and permit requirements.
- Nord Stream held daily conference calls with the construction vessels involved to ensure consistent information flow and timely identification of potential issues.
- Installation did not take place during fish spawning seasons.

For further information, please contact:

Nord Stream Press Hotline: +41 41 766 91 90

E-Mail: press@nord-stream.com