

Offshore

i n d u s t r y



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Fallpipe Innovation



No Strings Attached

Precision rock placement in shallow water with regard to scour protection of offshore structures is a worry of the past for offshore rock dumping contractor Tideway. Thanks to an inclined fallpipe system based on a design concept by engineering company KCI, installed on the DP2 fallpipe rock dumping vessel Rollingstone. By Marika van Pol for KCI.



In October 2010, Tideway launched a design competition for their conceptual idea of an Inclined Fallpipe System (IFPS) for their DP2 fallpipe rock dumping vessel Rollingstone. The design objective was to enable precision rock placement around the legs of fixed oil and gas platforms and offshore wind turbine constructions, such as monopiles and jackets, located in shallow waters. These are subject to scouring issues at the footing of the structures but these locations cannot be reached with the normal fallpipe of the rockdumping vessels as this fallpipe is positioned through a moonpool in the centre of the vessel.

Dutch based engineering company KCI, came up with the best concept study for the IFPS and won Tideway's design competition. Some eight months later, at the end of June 2011, the patented IFPS had become a reality and the Rollingstone set sail to Canada for its first mission with the newly designed fallpipe system.

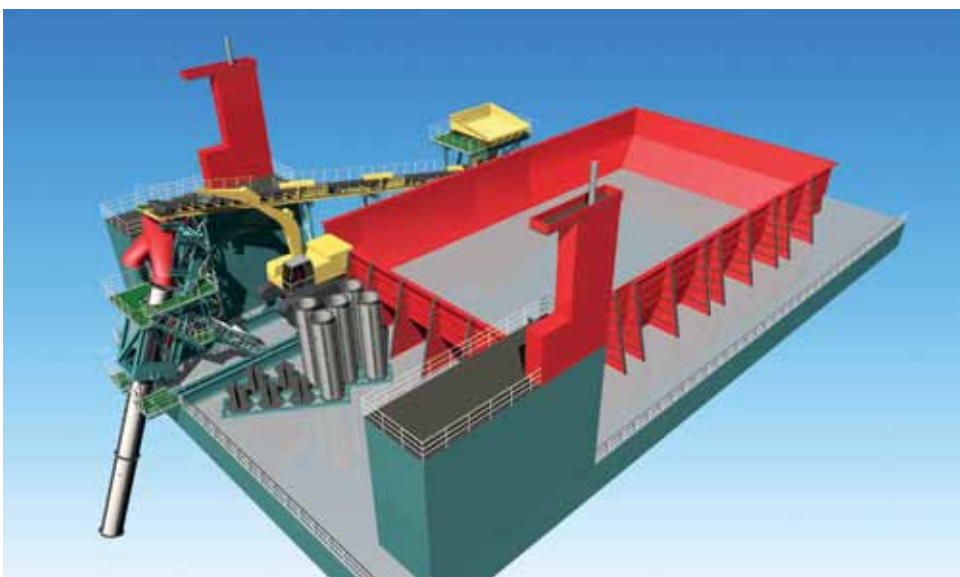
Inclined Fallpipe

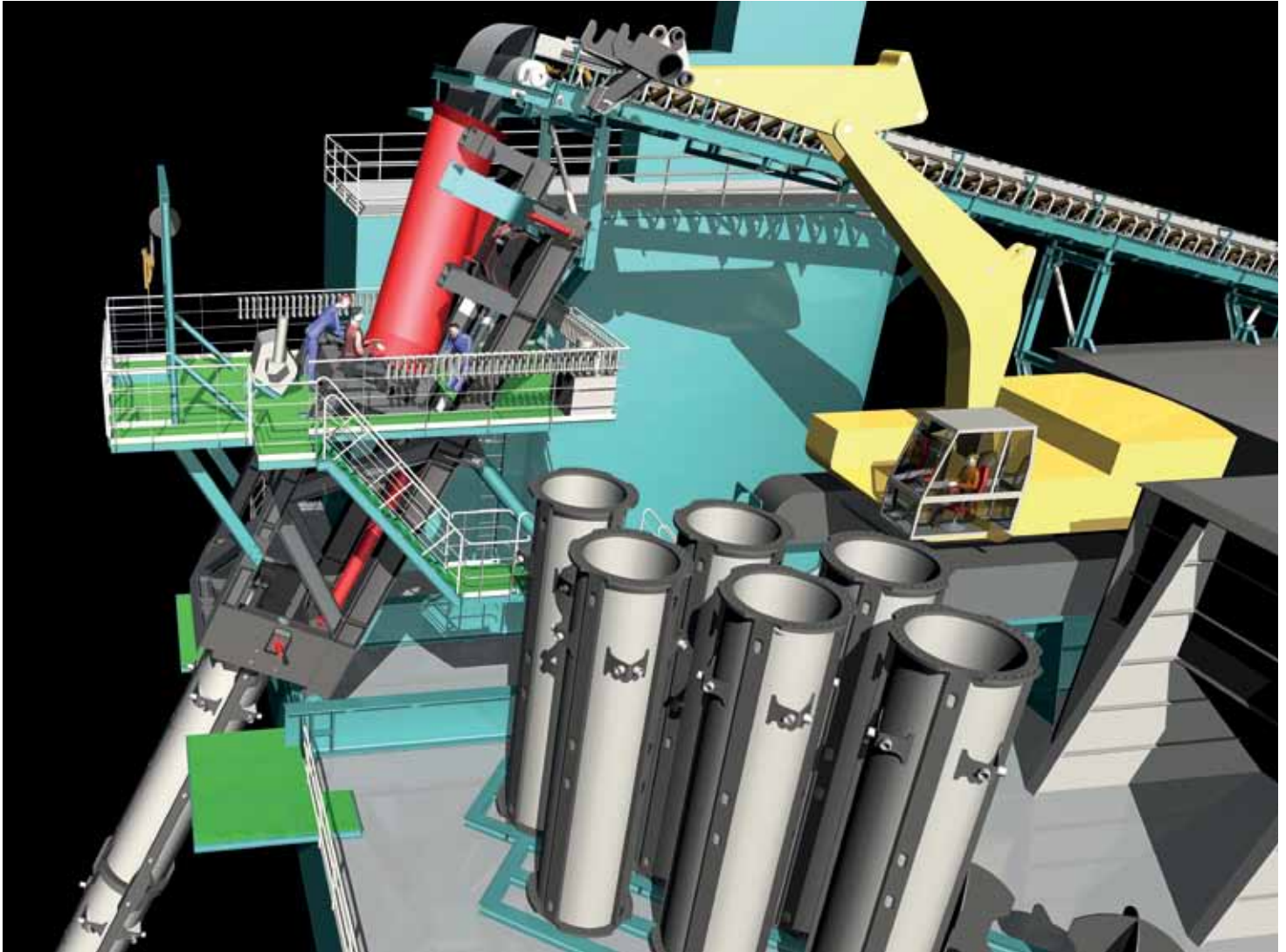
The IFPS consists of separate closed fallpipe sections which are assembled in modules from the aft deck. From the aft of the ship, the IFPS extends in the form of an inclined pipe, reaching approximately 20 m behind the

vessel. Through this 50m long pipe of 1.20 m diameter, extremely precise rock placement is possible. At the lower end of the inclined fallpipe a survey bracket is launched, consisting of state-of-the-art 3D survey sensors. There are no wires connected to the lower end of the fallpipe. The bending moments are completely compensated by the flanges of each individual fallpipe section and the launching structure placed on the aft deck. These specific features enable the inclined fallpipe to be used close to the footings of the different structures without limitations of wires.

Constructability Focus

Engineering was performed with a strong focus on constructability. Both Tideway and construction company lemants were closely involved during the engineering process, which reached completion at the end of January. Subsequently lemants – the main contractor on the project – was able to start building the IFPS early February. Apart from delivering the concept study and detailed engineering, KCI also gave construction support to lemants during the build period in February and March 2011. Moreover, KCI was heavily involved in the definition of the 'Factory Acceptance





Testing' and provided on-site support during the actual execution of these tests in May.

Integrated Project

According to Pascal Ferier, general manager at KCI, the IFPS project is a perfect example of an integrated project approach of which KCI is a great advocate. "We do not want to limit our contribution in a project to merely designing a concept and performing detailed engineering. Our strength lies in the involvement in the entire project. We love to bring in our experience and expertise, regarding fabrication and installation management in an early stage in the project. In this way we can create a better design for our customer." Philip Scheers, Tideway's project manager Inclined Fallpipe System, adds: "It was a pleasure working with highly motivated true offshore specialists. Only working in partnerships will lead to real innovations in this complex and fast changing offshore environment."

Additional Functionality

The IFPS will add additional functionality to the Rollingstone. Next to its existing centrally

located vertical fallpipe, which can place rocks up to 1,000 m and is currently the industry's record keeper with 987 m on the Balearic Pipeline Project, the newly installed IFPS will make precision rock placement possible in shallow waters for situations inaccessible with current technology. With the installation of the IFPS, the Rollingstone has become a truly multipurpose rock placement vessel. Next to deep water rock dumping, the vessel is now ready for a new era of precision rock placement.

Maiden Trip

Following a final test in Norway, to ensure that the IFPS operates properly in waters up to 50 m, the Rollingstone set sail for Canada. Canadian oil and gas company Encana Corporation has contracted the Rollingstone with IFPS for scour protection around a newly built gas platform in the Deep Panuke field, 175 km off the coast of Nova Scotia. This gas platform is mounted on spudcans in about 44 m of water. Although the water is relatively shallow, the harsh environmental circumstances could cause scour between the spudcans which could endanger the stability of the platform.



Precision rock placement is an absolute necessity as the high end of the spudcans is covered with important piping, which should be kept clear of rock at any time.

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