

OFFSHORE 24" OD RISER REPAIR PHILIPPINES, OCTOBER 2016

Project Overview

Two sections along a 24" nominal bore Gas Export Pipeline Riser on a Philippines offshore gas platform were found experiencing external corrosion under the passive fire protection. All repairs were critical as these risers could not be shut down, and pressures could not be reduced due to their offshore location. With the high design pressure of 2945 psi (203 bar), the risk was becoming a safety concern if too much of the wall was lost due to the external corrosion.

The repair areas were prepared in accordance with SSPC-SP10 / NACE 2 Near-White Blast Cleaning before the defects were filled using Thermo-Fill™HC, a high-compression strength liquid epoxy that provides a load transfer medium. Thermo-Poxy™ epoxy was then applied over the entire repair areas to provide corrosion protection to the bare steel, locking out any atmospheric conditions from the environment, while also acting as a primer for Thermo-Wrap™CF, a chemically resistant carbon fiber composite repair system, developed for high temperature applications. The carbon fiber composite system was field-saturated using NRI's Resinator™, then applied at the requested 12 layers over the repair lengths, fully restoring the integrity of the pipes. A jacket type of PFP was applied over the Thermo-Wrap CF system in order to fulfil the PFP requirement.

Two critical defects were repaired by an NRI-U led installation team in only 2 days. By utilizing Thermo-Wrap CF engineered composite repair system, the lines remained in full working operation without the need to reduce pressure, thereby fully repairing and reinforcing the sections while maintaining full function which saved the operating company money in associated shutdown costs of the platform.

