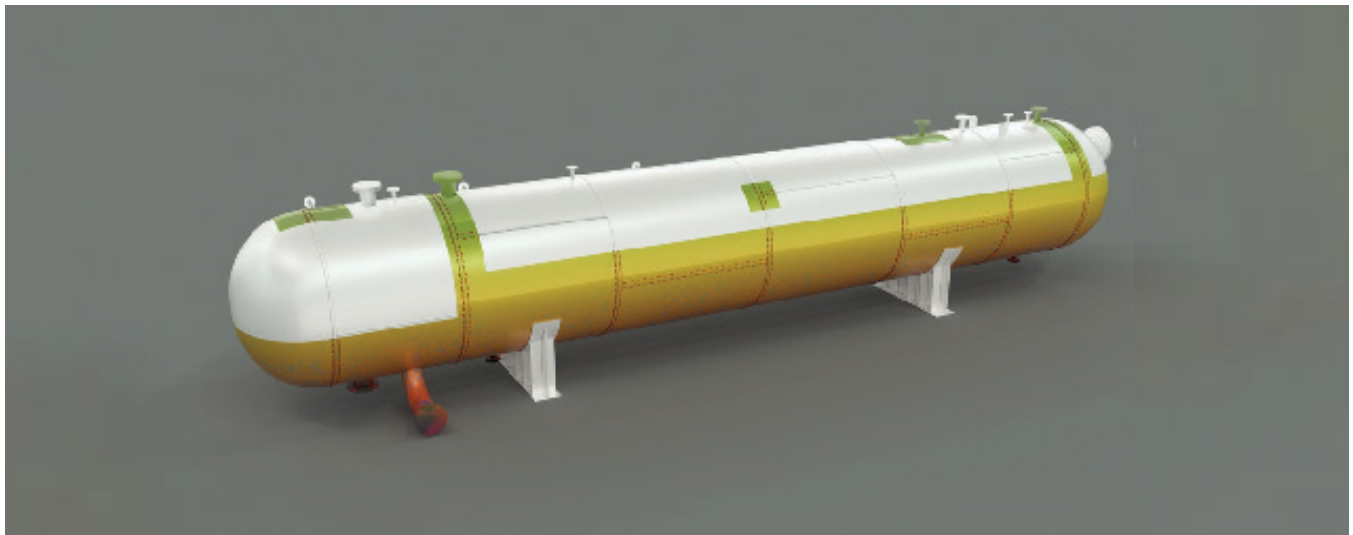


Oceaneering Completes Non-Intrusive Inspection of Pressure Vessels for North Sea Operator

NII approach reduces costs while increasing safety and maintaining uptime



Project Overview

In mid 2021, Oceaneering started an 18-month project to complete non-intrusive inspection (NII) services as part of an ongoing contract with a North Sea operator. The project scope covers a package of 50 pressure vessels across several sites. The vessel characteristics were diverse and included varied materials, services, operating temperatures, and service histories.

Challenge

The client required a solution that confirmed the condition of their pressure vessels and enabled them to reduce costs while increasing safety and uptime. NII is often considered an attractive option by many operators as the process used to plan and evaluate an online vessel inspection often allows replacement or deferment of internal visual inspection (IVI).

The Oceaneering Solution

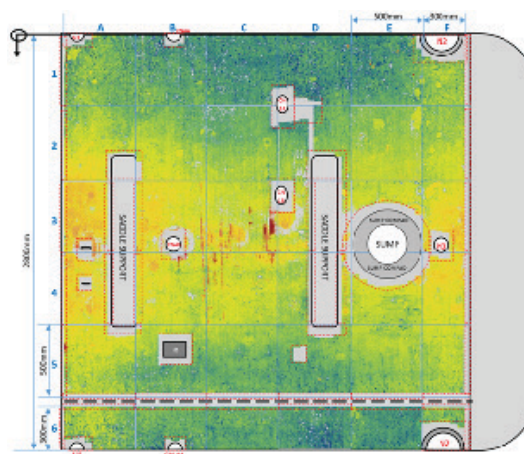
Oceaneering offers a full suite of NII techniques and used several approaches, including ultrasonic testing, corrosion mapping, and time of flight diffraction (TOFD), to complete the work scope. Using NII reduced risk-laden confined space entries and had a direct budgetary benefit for the operator. Because the pressure vessels were able to be inspected while online, operations could continue with no impact on production. NII has the additional benefit of providing the necessary auditable data to either defer or reduce any additional internal visual inspection.

Execution Plan

Using the recommended practice developed by the HOIS Joint Industry Project – HOIS-RP-103, an Oceaneering team competently assessed against the HOIS framework to complete the steps necessary to ensure a successful program.

Starting in early 2021, a small team of Oceaneering engineers completed suitability assessments to evaluate NII coverage and locations across the 50 pressure vessels. This information fed into work scopes with detailed inspection instructions. In September 2022, Oceaneering technicians completed the inspections which were conducted over a course of year. Oceaneering engineers then evaluated the data to ensure conformance to the outlined work scopes.

The detailed data enabled our team to either confirm satisfactory inspection of the area and completion of the work scope or recommend additional inspection activities be completed to ensure coverage had been fully achieved.



Results

The assessment and evaluation reports generated by Oceaneering provided the operator with fully transparent and auditable data. The NII approach enabled them to maximize uptime by avoiding costly inspection-related shutdown. They were able to derive a clear picture of the condition of their pressure vessels while reducing their overall inspection costs by an estimated 80%. This approach will be adopted wherever practicable across future pressure vessel inspections.