

2 Bow Thruster Simulation - Liverpool



The Rotech Solution

Rotech Subsea deployed its TRS2 Controlled Flow Excavation tool for the simulation. The tool was equipped with a suite of high precision monitoring equipment to capture comprehensive data. This included two Valeport 106 current meters, a Valeport Mini IPS depth sensor, a Teledyne TSS Saturn 30 fibre optic gyro, and an Impact Subsea ISA 500 altimeter. The sensors were connected to an IOspy logging PC, enabling real-time data capture and precise control over depth, altitude, trim, and proximity to the quay wall.

This setup allowed for the accurate replication of bow thruster conditions and provided BAM Nuttall with all the necessary inputs to validate the test environment.

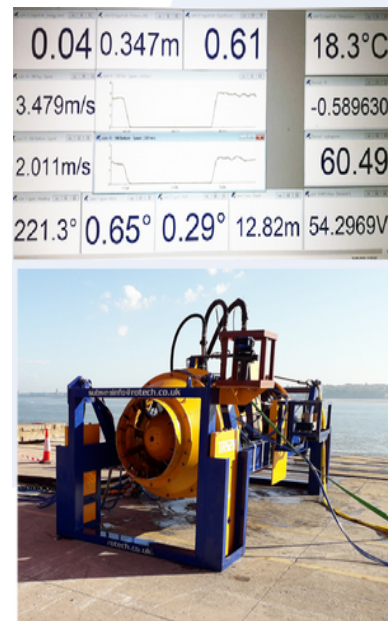
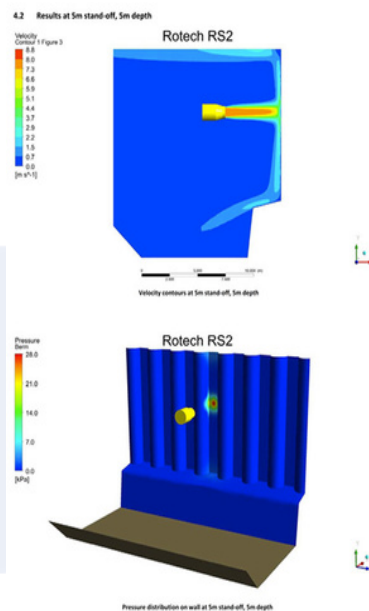
Results

The project was successfully completed, with all required data collected and recorded. Rotech Subsea's TRS2 tool demonstrated its capability to simulate bow thruster conditions effectively, allowing BAM Nuttall to sign off the completion of the scope with confidence in the quay wall's resilience. The operation demonstrated the TRS2's capability as a versatile and precise tool for controlled flow excavation and simulation applications.

Project Overview

Rotech Subsea was contracted by BAM Nuttall to support a jetting trial at the Liverpool 2 Container Terminal. The aim of the project was to simulate the prop wash effect generated by a vessel's bow thruster against a quay wall. This test was essential to verify that the structural integrity of the quay wall would not be compromised during such operations.

A Computational Fluid Dynamics (CFD) analysis was carried out prior to the simulation to assess whether the RS2 jet could produce water velocities comparable to those of a bow thruster over the target area.



Project Information

Client: BAM Nuttall

Scope: Simulate bow thruster prop wash against a quay wall using the TRS2 tool to verify structural integrity of the quay wall

Currents: Measured using two Valeport 106 current meters as part of the monitoring setup