

MULTI-STATION EXECUTION OF OPTIMARIN BWTS RETROFIT

GOLTENS GREEN IN NETHERLANDS AND CHINA TEAM UP FOR SEAMLESS RESULT

Optimarin initially engaged Goltens Green Technologies to undertake the 3D scanning, basic design and detailed engineering package for the retrofit installation on a 10-year-old, 37,000 DWT cargo vessel.

3D SCANNING AND DESIGN

Goltens Green Technologies in The Netherlands reviewed the vessel's schedule and, to limit the costs and travel, arranged to conduct the 3D laser scanning and vessel survey in Eemshaven, The Netherlands close to their offices.

Using the 3D laser scan data, Goltens then completed the basic modeling of the system and reviewed it with the owner before embarking on the detailed design. Once the detailed design was completed, Goltens worked to develop the associated Ballast Water Management Plan and secured Class Approval.

PREFABRICATION AND INSTALLATION

During this process, the owner confirmed that they would drydock the vessel at CUD (Weihai) Shipyard in China and expanded the scope of Goltens involvement. Goltens specialists in China were contracted to complete the prefabrication of the required system components and to perform installation supervision and commissioning of the Optimarin system while in the shipyard.

PREDICTABLY EXCELLENT RESULTS

Given Goltens China's vast experience supervising BWTS retrofit installations, the installation and commissioning of the system went smoothly. All of the required components were prefabricated to finite tolerances made possible by the accuracy of the 3D scanning and were well organized with no pieces missing. Despite the inefficiencies and challenges introduced by COVID-19, the installation was completed, and the system was commissioned, in only 14 days.

PROJECT FACTS:

Ship Type:
Location:
System Manufacturer:
Capacity:

OPTIMARIN RETROFIT

Open Hatch Cargo
CUD (Weihai) Shipyard
Optimarin
834/750BK2



Figure 1: Bulker alongside



Figure 2: Planned position to install Optimarin BWTS



Figure 3: Main treatment and electrical components installed

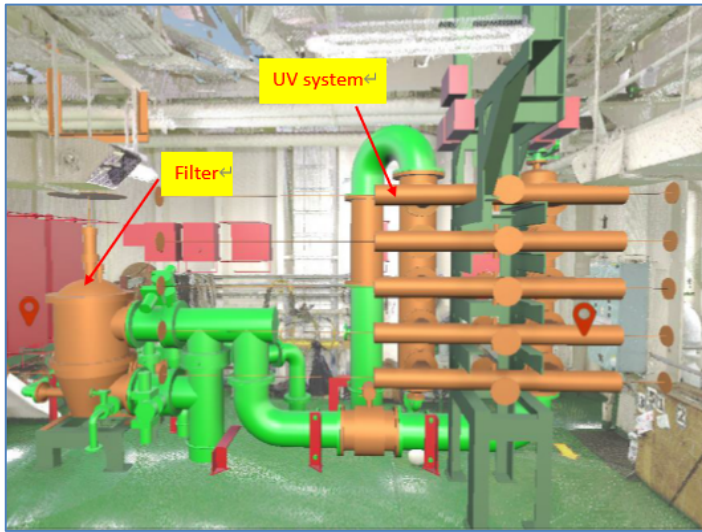


Figure 4: 3D Model of UV system overlaid on 3D Scan data



Figure 5: Main components of Optimarin system installed per design

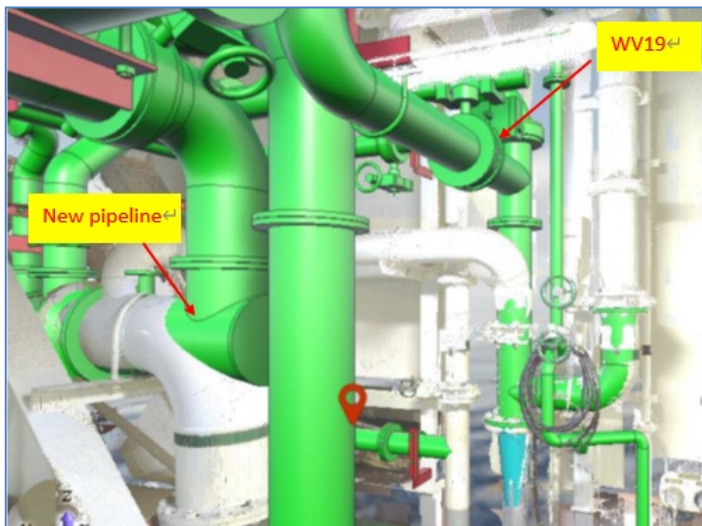


Figure 6: 3D Model required overboard piping modifications

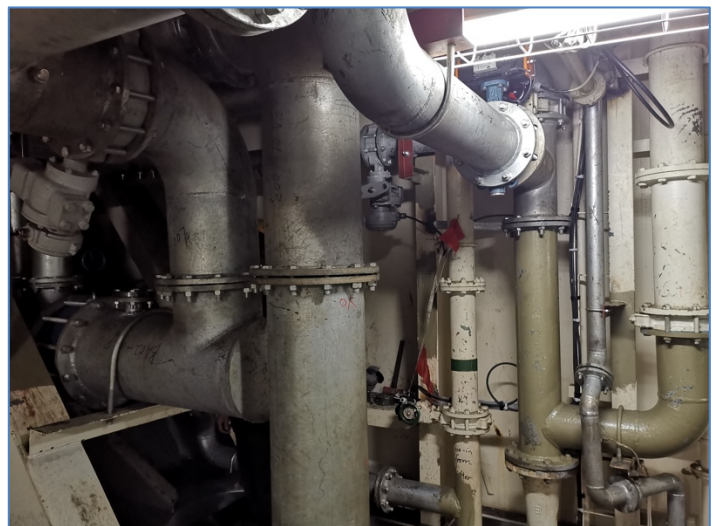


Figure 7: Overboard modifications completed per approved design

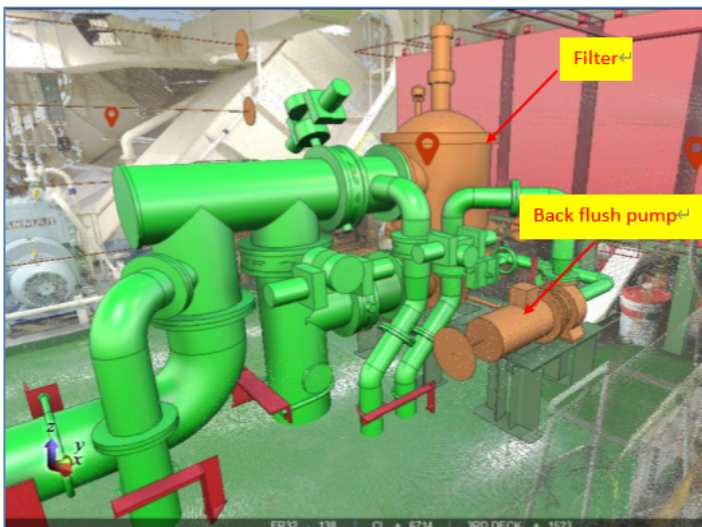


Figure 8: 3D Model of filter and back flush pump location



Figure 9: Filter and back flush pump installed



Figure 10: 3D Model of tie in required to existing pipe spool



Figure 11: Spool tie in completed



Figure 12: Commissioning – Insertion of UV tube



Figure 13: Demonstration and Training of ship's crew