

# CETCO

ENERGY SERVICES

A Minerals Technologies Company

## SUCCESS STORY

ORCA™ Objective Root Cause Analysis  
Water Treatment & Filtration  
FPSO Water Solutions



Raw Slops

D/S of Chemical  
Injection Point

CETCO Slops  
Package Outlet

CETCO  
ENERGY SERVICES

# CLEAR SOLUTIONS for complex fluids

## Rapid Call Off Decommissioning Fluids Treatment



### CHALLENGE

- Decommissioning slops water treatment and disposal



### SOLUTION

- Temporary treatment package for cost effective, in-spec treatment and discharge overboard



### RESULTS

- Avoidance of costly wastewater transport and treatment onshore

## SUCCESS STORY

ORCA™ Objective Root Cause Analysis  
Water Treatment & Filtration  
FPSO Water Solutions

# Rapid Call Off Decommissioning Fluids Treatment

## CHALLENGE

A North Sea Floating Storage and Offloading (FSO) vessel had accumulated approx. 3000 m3 of slops water received from the topsides flushing (as part of decommissioning) of an FPSO where the FSO was connected. The FSO was being decommissioned and required the slops cargo to be emptied and free from any hydrocarbon liquid and gas prior to sailing to the scrapyard.

The slops fluid formed a tight oil-in-water emulsion and was not able to be treated and discharged via the FSO's water processing unit. The Oil-In-Water (OIW) concentration of the slops was in the range of 150 to 500ppm which is significantly above the regulatory limit of 30 mg/L and therefore needed a different treatment solution.

Tankering the slops for onshore treatment had already been assessed by the operator and owner of the FSO however this was deemed to be cost prohibitive. Treating the slops onboard was both more cost effective and enabled adherence to a strict timeline being met to complete decommissioning of the vessel.

## CETCO SOLUTION

CETCO Energy Services (CETCO), proposed a stair-step approach to the client and conducted ORCA™ Objective Root Cause Analysis service followed by mobilization of a full-scale slops treatment package.

A rapid call for services was required and within 48 hours of contact a CETCO Fluids Specialist was mobilized to the asset to profile the fluids and make a technology recommendation for bulk fluids over boarding.

Initially an ORCA™ study was conducted to characterize the slops fluid and subject it to a benchtop technology assessment. This determine the suitable treatment method to achieve the regulatory overboard OIW concentration of <30 mg/L. The study concluded that a dual chemical and flotation treatment method would be able to discharge the slops overboard.

As soon as the optimal treatment package was identified, CETCO shore base started preparing the full-scale package for mobilization. The package consisted of chemicals and CETCO's proprietary CrudeSep® Dissolved Gas Flotation (DGF) unit, all held in stock. Within a week CETCO rapidly mobilized a package to overboard the slops onboard the FSO. The slops package was able to process between 25 to 50 m3/hr of slops from the FSO's cargo.

## RESULTS

The CETCO slops treatment package was able to successfully treat the emulsified slops accumulated onboard the FSO consistently below the OIW regulatory discharge limit of 30 mg/L. This provided significant savings for the client against potential tankering of the fluids.

2,890 m3 of slops were treated and the inventory was overboarded in a span of 7 days.

This fell within the time frame for its schedule of emptying all its cargo tanks prior to sailing to the scrap yard.

