

Water Treatment Case History

North Sea Pipeline Decommissioning

Challenge

A major North Sea operator had a schedule decommissioning of a pipeline between two of their platforms in southern North Sea. Hydrocarbon contaminated fluids needed to be treated prior to overboard discharge.

CETCO Solution

The operator requested CETCO Energy Services to treat the hydrocarbon contaminated water from the pipeline decommissioning operation. CETCO utilized its patented water treatment technologies – Hi-Flow™ and CrudeSorb® media, to filter and process the produced water. Since deck space is limited, the filtration skids were set up on the deck of a chartered supply vessel, which was located alongside the North Sea platform.

CETCO connected to the tie-in points on the platform using approximately 160 m of 4" hose. About 50 m of this was to be in water therefore requiring the use of floats. The floats were placed around the hose, placing three floats every 10 m of hose. The supply vessel was moved closer to the rig where the platform crane lifted the other end of the hose up and connected the hose to the platform tie-in points. This allowed the fluids to be pumped back to the platform, down the line of the vessel and through the CETCO treatment system. The 12" diameter 14.4 km long gas export line has been depressurized and flooded with seawater in preparation for filtration. CETCO passed the fluid through a three-stage separation process using series of filtration equipments: Pleated Filter Unit (PFU) 800, Hi-Flow™ IFV 4000 and CrudeSorb® RFV 4000 to reduce hydrocarbon content in the fluid before overboard discharge.

Outcome

CETCO received and treated approximately 3,000-4,000 m³ of water. CETCO successfully removed hydrocarbons to levels <30 ppm, which brought the level of oil-in-water into compliance of the allowances set by DECC for overboard discharge.

