



## Case History: Acid Flow Back Treatment

Commenting on the CETCO's treatment of the contaminated water returns on the Triton, Barry Hanley, Triton Process Eng Co-ordinator, said, "CETCO was contracted to the Triton FPSO to carry out water clean-up operations during flowbacks from several well scale squeezes and acidisation.

"This work was heavily dependant on weather conditions and the availability of dive-boats, which resulted in several changes to the schedule at relatively short notice. CETCO's response was positive and flexible throughout. The onshore support and offshore personnel were professional and highly committed to meeting our objectives throughout the contract".



Triton FPSO (above) CrudeSep® 4000 (below)



Client: Amerada Hess Triton - UK

CETCO Oilfield Services successfully treated contaminated water returns on the Amerada Hess Triton FPSO. The fluids were treated during well clean-up operations and have reduced the potential for overboard oil discharges and production upsets at the offshore installation approximately 120 miles east of Aberdeen.

Contaminated water returns are a common problem for the offshore industry and are often caused by the harsh fluid packages used to re-stimulate existing oil wells due to downhole scaling, sanding or skin damage caused over time.

When the surfactant packages return they can create major upsets in both oil and water treatment systems. Offering an alternative to working returns through existing production process facilities or shipping to shore for treatment, CETCO's technology is designed to isolate the fluids completely preventing any upset conditions from occurring.

Returns are subsequently treated through CETCO's patented water treatment technologies, CrudeSep® and CrudeSorb®, and discharged directly overboard meeting all statutory requirements.

Specifically designed to treat oily water returns produced during offshore operations, both technologies are proven to significantly reduce dispersed and dissolved hydrocarbons and can be used independently or together to achieve overboard compliance.

In treating the well clean-up returns on the Triton FPSO a CrudeSep 4000 skid with a CrudeSorb® RFV 4000 skid was utilised with the CrudeSorb® technology located downstream.

CrudeSep® is a vertical, cyclonic, induced gas floatation, four phase separator incorporating gravity oil separation; enhanced by induced gas floatation and cyclonic motion. This creates centrifugal forces which separates fluids of dissimilar specific gravities.

The CrudeSorb® is a proprietary adsorption media that is proven to be extremely efficient at removing both soluble and insoluble hydrocarbons from water, and, on the Amerada Hess application, was used as a final "water polisher" prior to the fluids being discharged safely overboard.

- All discharged fluids met or exceeded all DTI regulations
- Reduce cost by discharging fluid overboard, eliminating process upsets
- Reduce costs by eradicating transportation of fluids to shore for further treatment
- Prevent potential damage to existing production facilities due to erosion from solids and acidic fluids

WATER TREATMENT



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