



## Case History: Cooling Water Treatment & Solids Filtration

### COOLING WATER TREATMENT

BHPB approached CETCO regarding treatment of contaminated cooling water on their Douglas Platform. A high pressure, high temperature water heating circuit is used to reduce the waxing potential of the produced crude and provide other heating services for the installation. The problem was that crude oil had been leaking into the heating medium via plate heat exchangers and causing carbon deposition in the waste heat recovery unit heat exchanger, which if left unchecked could lead to over heating and serious corrosion.



Modified RFV 3000 skid

Client: BHP Billiton Douglas

CETCO Oilfield Services was requested to supply a water treatment package to treat heavily contaminated water in-line. Consequently CETCO's equipment had to operate at pressures of up to 15.5 bar and temperatures of 120°C. Following lab bench studies and a technical onsite evaluation, CETCO modified an existing RFV 3000 adsorption skid to carry out this unique closed loop application. CETCO gradually cleaned up the fluids by continually recycling the system water through the treatment process. CETCO reduced the oil in water concentration of the heating medium from 18,000 ppm down to 7 ppm.

### ONSHORE OIL FILTRATION

Following the successful application on the Douglas platform CETCO was requested by BHPB to provide a solution to an existing problem with a hot oil system at their Point of Ayr gas terminal. The hot oil system had been contaminated with solids due to the thermal decomposition of the hydrocarbon based oil heating medium which led to the formation of carbon solids. The presence of these solids created problems with valve control and impulse line blockages, which led to the export of sales gas being temporarily halted.

During the operation CETCO's dual sock filter unit was tied in-line to the BHPB system handling oil with a temperature of up to 160°C. The oil was filtered continuously at a flow rate of 0.5 bbls/min removing solid particles above 1 micron.

CETCO was then requested to undertake a similar application; filtering cold oil from a road tanker based at the Point of Aire refinery. Using the same equipment CETCO filtered contaminated crude oil removing solids above 1 micron particle size.

The above applications demonstrate CETCO's ability to provide innovative solutions to a wide variety of problems encountered within the oil and gas industry. Due to the success of these projects a permanent cooling water system has been installed by CETCO. In addition to this, BHPB is also considering the installation of a produced water treatment unit.

### WATER TREATMENT



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