

### HVAC System Marine Fouling Remediation

#### Overview

A UK offshore asset was suffering from marine fouling in the seawater system. The internal heat exchangers within the Heating Ventilation & Air-Conditioning (HVAC) units were becoming heavily restricted and blocked by marine scale. The result was a significant drop in heat transfer capabilities, causing increased zone temperatures. Whilst this can lead to general discomfort in the accommodation areas, it was having a detrimental effect on asset electrical switchgear and control systems, leading to un-planned facility shutdowns.

#### Challenge

The HVAC units and associated pipework had to be remediated with minimal interruption to regular operations. The equipment spread had to be non-intrusive so that reliance on asset crew was kept to a minimum, but it also had to have a small footprint so that the temporary equipment could be kept local to each HVAC unit to prevent hoses being run through doors, etc.

#### Solution

An air driven chemical circulation spread was engineered to allow all components to be moved by hand through standard doorways, hold sufficient chemical capacity, enable recycle of fluids and for suitable pressure rating (max. 15.5 bar). A chemical solution was circulated through the heat exchanger and left to soak in the inlet/outlet pipework. All marine scale was dissolved whilst the liberated soft tissue was captured within the filtration. All CEFAS templated, Gold Banded, waste chemicals were suitable for flushing to open drains.

#### Result

18 HVAC units were treated over a 21 day period with an average drop of 7 °C in output air temperature. The asset was able to rely solely on the facility HVAC system without assistance from portable AC units. A Close-Out Report was issued upon completion with operational recommendations to increase intervals between cleaning campaigns.

#### Value to Client

- Return to normal operation of HVAC system
- Low impact on asset operations
- Forward maintenance plan provided



2 x Air Driven Pumps, Break Tank & 2 x Returns Filters

#### Main Features / Benefits

- Non-Intrusive
- Instant results
- Engineered to be a simple process
- Low footprint
- Low input requirement from asset ops
- Low environmental impact

