CASE:
Online Descaling of Crude Oil Heaters Resulted in 3 x Faster Cleaning

Huge amounts of both time and money can be saved by performing descaling of crude oil heaters online in stead of offline. The results are no production loss at all, increased safety and a much faster - but still very efficient - cleaning.

An offshore customer in the Al Shaheen Field in Qatar was experiencing challenges with increased pressure drop at 3 crude oil heaters on board one of their production platforms.

The heaters were contaminated with micro-organic growth and calcium carbonates, which caused the pipes inside the heaters to block. In order to stabilise the production and get the heaters back on optimal efficiency, the heaters were to be thoroughly cleaned.

Offline Descaling: 24 hours = 1 heater cleaned
Injection of diluted corrosion inhibited hydrochloric acid is a commonly known method for cleaning of offshore systems like crude oil heaters for contaminants like micro-organic growth and calcium carbonates.

The used hydrochloric acid is corrosion inhibited and does therefore protect the system against corrosion attacks.

The method makes it possible to clean the systems onsite without dismantling and disassembling the systems.

A commonly known method to perform descaling of such systems is to do it offline where the heaters in turns are shut down and cleaned while the production is maintained by the remaining heaters. This implies a reduced total production during the cleaning process and therefore costly production loss for the customer.

Offline descaling takes normally 24 hours per heater. For the customer this meant that the cleaning of the 3 crude oil heaters was to take at least 3 x 24 hours. To this time should be added some extra for the alternately shutdown and start-up of each heater.

Online Descaling: 24 hours = 3 heaters cleaned
Instead of cleaning the crude oil heaters offline, Ocean Team was able to offer the Qatari customer both a cost- and time-saving alternative: To clean the heaters online during operation.

Ocean Team was able to perform the cleaning of all 3 crude oil heaters within 24 hours by use of online descaling. Compared to the offline alternative this meant a 3 times faster cleaning and therefore considerable cost- and time-savings for the customer.

NO Production Loss
Performing the descaling online without shutting down the crude oil heaters meant absolutely no production loss for the customer.

The online method meant also, that the customer from the very start of the cleaning process was able to see a considerable effect of the cleaning in an immediate increase in production efficiency.

During the whole process Ocean Teams specialists are in constant radio contact with the control room of the platform in order to keep the production stable.

The injection of the diluted corrosion inhibited hydrochloric acid is thoroughly supervised and adjusted during the whole process in order to secure a safe and smooth removal of the contaminants and thus a stepwise increase in production efficiency.

Ocean Team Group of Companies

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A Safety-Improving Method

Ocean Team's method to clean the systems online has shown to be an even safer method than doing the cleaning offline.

By online descaling we totally eliminate acid handling offshore. The hydrochloric acid is diluted onshore at our own workshop and shipped to the offshore platforms in the customers own tanks or in our own tanks. The mixture is injected directly from these tanks into the contaminated system by use of our own specialised state of the art equipment.

Furthermore does our method to online descaling not require any kind of extra handling and contribution of hydrochloric acid in order to keep up the right concentration of acid during the cleaning process.

This is a clear safety improvement compared to offline descaling methods as the offline alternatives normally will require some level of acid handling offshore in order to keep up the right concentration during the cleaning process.