

CASE: Cleaning of Gas Compressors Offshore in LESS than One Week

Yes, it is possible! On several occasions, Ocean Team saved our customers a lot of time and money by conducting chemical cleaning of the customer's gas compressors on-site without having to dismantle and disassemble the compressors, which is both expensive, difficult and time consuming.

Challenges with heavy layers of iron oxide on the inside of the gas compressors on board offshore production platforms have on several occasions caused customers to contact Ocean Team.

Apart from our experiences from the North Sea, Ocean Team has during 2011/2012 been in Brazil to clean 3 gas compressors for Teekay Petrojarl on board the local FPSO Sevan Piranema.



Picture 1 – Dresser Rand D08R8B Back-to-Back compressor on board FPSO Sevan Piranema in Brazil.

Great Production Loss due to Reduced Efficiency

The gas compressors on board the Piranema are used for increasing of the pressure for oil production in the wells by means of re-injection of natural gas.

Due to heavy layers of iron oxide the efficiency of the compressors was so strongly reduced that the Piranema was suffering great losses of oil production.

Consequently, Teekay was facing an acute problem which had to be solved as soon as possible in order to minimize the quickly growing production loss.

The well-known solution:

Mechanical cleaning – at least 4-6 weeks

The procedure normally used by the customer for removal of fouling in gas compressors was mechanical cleaning. However, such process would require the compressors to be dismantled and transported to a workshop ashore for disassembly and mechanical cleaning of each individual component.

This is a time consuming and expensive solution, which would take at least 4-6 weeks for each compressor, giving a total duration of at least 12-18 weeks.

By turns the compressors would have to be transported ashore while the production is main-tained by means of the two remaining compressors on the platform. To this should be added extra time used for logistics, planning of shutting down and start-up of the compressors, respectively.



BEFORE CLEANING



AFTER CLEANING

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The consequence for Teekay by using the well-known solution was considerable losses of production during the 4-6 weeks of cleaning of the first compressor, because of the strongly reduced efficiency on the remaining compressors.

Ocean Team's solution: Chemical cleaning in less than 1 week

Due to the long time required for cleaning and the subsequent large loss of production, Teekay was actively looking for an alternative solution. Ocean Team was able to offer a far quicker and more efficient solution: Chemical cleaning without having to dismantle, ship or disassemble the compressors.

Ocean Team removed the heavy layers of iron oxide in less than 1 week for each compressor – counted from the time it was taken out of operation until it was ready for operation again. This meant between 3-5 weeks saved in time for each compressor.

Efficient cleaning at 1/5 of the price

By using the solution offered by Ocean Team the customer saved much money for shipping and handling of the compressors.

Together with money saved due to less working hours used - as a result of the shorter duration of cleaning - the total costs of the cleaning were only 1/5 of the calculated costs for shipping the 3 compressors ashore in turns and having them cleaned there mechanically.

The all-important advantage by using the solution offered by Ocean Team was that the compressors could be cleaned on-site without having to be disassembled, which saved the customer large amounts of time and money.

The final result was that far sooner than expected the customer succeeded in stabilizing the production of the platform and getting the oil production back at a normal level again.



Picture 2 – Connecting Ocean Team's chemical cleaning unit to the gas compressor. Efficient and quick cleaning without dismantling, shipping and disassembly of the compressors. The results were large savings in time and money.