

How the Metamorphic Trim Reduced OPEX and Improved Water Quality for an Offshore Platform

The Challenge

A major Oil & Gas producer in Norway was suffering from clogged valves in the hydrocarbon separation unit on an offshore platform. The three valves that were clogging were installed at the hydrocyclone letdown, with one valve for each separator, and needed to handle high differential pressures and low flow rates, as well as particle contaminated sticky fluid.

Due to improvements to the Enhanced Oil Recovery (EOR) system, the field life was extended beyond the original planned life of the wells. This introduced new challenges and resulted in the original valve being no longer fit for service. During late well life, it is typical for the amount of produced sand and slurries to increase, which occurred in this case. As a result, the original installed multi-stage valve trims clogged repeatedly. This caused reduced efficiency of the produced water treatment system. Frequent maintenance was also required to manually open and clean the valve every two-three months of operation.

"Since the upgrade was completed, nobody from the offshore team is talking anymore about these valves, which is good as it means they are now working well and are no longer causing any troubles."

Offshore Process Technician



The original multistage valve trim clogged by sand and sticky fluid.

The Solution

Any maintenance outside a planned plant shutdown is a major pain point, especially for offshore production, as it causes significant OPEX. The plant operation and reliability team needed to reduce the downtime and find an efficient, reliable valve solution to solve this chronic problem.

IMI Critical Engineering introduced the customer to the new EroSolve Metamorphic Trim (MMT) product, the world's first self-cleaning Metamorphic valve Trim, combining the benefits of multistage-labyrinth and cascade technologies.

Our solution met the customer's needs by preventing the particle contaminated sticky fluid from clogging the valve and being able to handle the high pressure drop as well as small flow rates. The customer strongly believed in our new technology, even though there was no installed base or field proven reference at the time of quotation.



Complete EroSolve MMT upgrade components for offshore.

The Benefits

The new EroSolve MMT upgrade trim kits were installed over six months ago and have had no issues at all. During several follow-up meetings the customer confirmed the MMT was able to prove its self-cleaning capability.

To minimise critical downtime during the valve upgrade, the new trim was installed by an IMI CCI field service engineer onsite, offshore. The trim was retrofitted into the existing valve body without removing the valve from the line. This ensured a fast installation, but also minimised waste and scrapped parts by reusing existing major valve parts such as the body and actuator.

EroSolve MMT improved the produced water quality and significantly reduced OPEX. Our innovative solution helped our customer to ensure efficient, sustainable, and competitive production.

Could EroSolve MMT solve your problems?

EroSolve MMT:

- Allows solid particles and sludges to pass through the valve trim without clogging
- Is a self-cleaning valve that needs less maintenance and causes less plant downtime
- Offers multistage high-pressure letdown that prevents velocity induced erosion & cavitation
- And is easy and fast to install on site

Get in touch with IMI Critical Engineering today to find out more.

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