

Application note

Panametrics liquid clamp-on ultrasonic flowmeter helps offshore operator improve 'enhanced oil recovery' performance

Benefits:

- Easy to install
- No process interruption
- No pressure drop
- High reliability
- Low maintenance
- Long term stability and drift characteristics
- Wide turndown ratio



Fig. 1: Existing ultrasonic flowmeter

Summary

An offshore operator in South East Asia wanted to increase the reliability of its produced water injection flow measurement on their main line to increase enhanced oil recovery (EOR) performance on the asset. In addition the customer, recognizing an opportunity to improve efficiency, also wanted to install flowmeters on its fire water lines.

Challenge

The customer used a competitor's ultrasonic flowmeter on its main water injection line, which fed several produced water injection pumps. However, the flowmeter provided erratic readings and the local technical support appeared to be weak. This proved frustrating for the customer adding to inefficiency and impacting on EOR performance.

With no flowmeter solution on the fire lines, the customer wanted accurate and reliable technology to ensure they delivered the required water flow rates; and with the offshore platform operating 24/7, the customer required a solution that could be installed without production interruption.

Specifications

Fluid:	Produced water	Sea water
Pipe size:	12" 150#	6" 150#
Pipe material:	CS	CS
Wall thickness:	25mm	21mm
Process Temp.:	Amb.	Amb.
Process Pressure:	20-45 barg	5 – 20 barg



Fig. 2: PanaFlow LC and XMTXP R10 installation

Solution

Following a meeting with the customer and with the pump contractor to identify its requirements, Panametrics recommended the implementation of liquid clamp-on ultrasonic flowmeters on the water injection and fire lines.

Panametrics long and successful track record across these applications, combined with its strong technical support helped convince the customer to adopt the Panametrics solution.

Using PanaFlow LC with XMTXP R10 transducers, the installation was straightforward with no interruption to production.

After several months of operations, the customer is very satisfied with the performance of all three flowmeters. It now has accurate and reliable measurements across their enhanced oil recovery process, which has led to productivity gains, as well as gaining a high degree of confidence that the fire pumps are delivering to their specifications when tested.

Panametrics, a Baker Hughes business, provides solutions in the toughest applications and environments for moisture, oxygen, liquid and gas flow measurement.

Experts in flare management, Panametrics technology also reduces flare emissions and optimizes performance.

With a reach that extends across the globe, Panametrics' critical measurement solutions and flare emissions management are enabling customers to drive efficiency and achieve carbon reduction targets across critical industries including: Oil & Gas; Energy; Healthcare; Water and Wastewater; Chemical Processing; Food & Beverage and many others.

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