

Micro Motion[®] Improves Reliability of Well Production Data

RESULTS

- Increased accuracy and reliability in well production measurements
- Elimination of tedious manual procedures
- Reduced cost of ownership and maintenance
- 15% reduction in installation costs



APPLICATION

A major oil and gas producer utilizes two-phase separators for production well testing in Southeast Asia. The two-phase separator separates gas from the incoming stream of gas, oil, and water. The resulting oil and water stream is metered, and with additional water cut data, the net oil and net water produced can be determined.

Positive displacement (PD) meters were used to meter the liquid stream, and a manual laboratory analysis was used to obtain water cut data.

CHALLENGE

Due to the particular formation of this producing field, wells produced significant quantities of sand in the liquid stream. Sand in the line can cause mechanical meter breakdown every six to eight months, due to premature wearing of internal parts. The consequence is inaccurate and unreliable crude oil measurement and well production data. The PD meters in use at this installation suffered from this problem.

In addition to data reliability issues, meter breakdowns caused interruption of the well testing program, resulting in delays of valuable well production data for assessing and optimizing production.

 www.micromotion.com



For more information:
www.EmersonProcess.com/solutions/oilgas
www.micromotion.com/oilgas



The meter maintenance procedure called for removing the damaged meter, sending it to the workshop for repair and reworking, and swapping in a spare meter. Labor and inventory costs were high - the cost to replace internal mechanical parts over a two-year period can easily equal the total cost of a Micro Motion® meter.

SOLUTION

Six Micro Motion 2" CMF200 sensors were installed to replace the existing PD meters. Because the Micro Motion meter contains no moving parts that can be damaged by sand, meter lifetime was extended and maintenance requirements were reduced.

The Micro Motion net oil computer was installed along with the Micro Motion sensor. Because this application performs on-line measurement of produced water cut, the need for manual sampling and laboratory analysis was eliminated, and better data was available for verification of tank gauging results.

Installation costs for Micro Meter meters were determined to be approximately 15% lower than installation costs for conventional PD meters. The cost of ownership was also significantly reduced, primarily through the reduction and standardization of reactive and routine maintenance activities.

After evaluating long-term performance of the Micro Motion meter and application, the customer standardized on this technology for both offshore and onshore facilities. The result was more accurate and reliable well production data, reduced production costs, reduced maintenance and inventory costs, and reduced process downtime.

