

Improved Reproducibility of Meter Factor on Prover with Micro Motion® Compact Density Meter

RESULTS

- Stable meter factors equate to less uncertainty of measurement saving the end user money
- Improved DMF stability means less confirmation testing due to higher confidence in the results
- Proving operations run more efficiently saving time on location, freeing the prover up earlier for additional jobs



Custody Transfer Measurement with Micro Motion CDM

APPLICATION

In the petroleum industry meters are often proved (verified) to ensure the meter's accuracy. Mass meters are proven by using a volume prover and a density meter to determine an inferred mass quantity to compare to the Coriolis meter. The result is expressed as a meter factor, which is used to adjust transaction quantities. Therefore, small inaccuracies in the meter factor can result in large financial discrepancies over time, easily exceeding hundreds of thousands of dollars. Obtaining consistent and stable meter factors throughout every verification builds confidence in the results and service provided.

CHALLENGE

Inferred mass proving includes proof of the density meter to ensure its accuracy. The density meter proving result is expressed as Density Meter Factor (DMF). The accuracy and stability of the DMF is directly reflected in the mass meter's Meter Factor (MF). The challenge in achieving a stable DMF is compounded for companies who prove meters on fluids ranging from ethane to crude oil.

SOLUTION

The company chose to install a Micro Motion Compact Density Meter (CDM) to generate better reproducibility and a more stable DMF than other instruments. Achieving a high level of reproducibility in DMF establishes confidence in the meter factor.

In addition to providing our technician's services, the advantages of having an expectation of the results before beginning the prove establishes confidence in the reduction of prove time, cost and inaccuracies.

Better stability of the density meter factor means that we can prove our customer's meters with more confident verifications. For our customers, providing a more consistent meter factor translates to more consistent measurements. The improved efficiency helped to reduce operating time and the costs associated with trying to explain why the meter factor has shifted. This solution has increased the customer's confidence.



CDM on Proving Truck

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