

API increases operational efficiency and improves measurement accuracy using Micro Motion® Coriolis fiscal measurement system

BENEFITS

- Overall Equipment Effectiveness (OEE) increased by approximately 10 per cent
- Measurement accuracy improved by up to 0.3 per cent
- Minimal maintenance enables increased availability
- Enhanced safety by eliminating requirement to send operatives onto tank roofs



“Emerson’s metering system has increased our Overall Equipment Effectiveness (OEE) by around 10 per cent”

Dr. Paolo Mangialardo,
Advanced Control Engineer
API, Raffineria di Ancona

CUSTOMER

The Falconara Marittima (Ancona) refinery is located on the Adriatic coast of Italy. Built in 1950 the refinery is part of API Group (Anonima Petroli Italiana SpA). The site covers an area of over 700,000 m² and the refinery has a capacity of 3,900,000 tonnes per annum. Access to the refinery from the sea is provided by marine terminals which can accommodate tankers from 1,000 to 400,000 tonnes.

APPLICATION

Metering system based on Coriolis mass flow measurement. The system is used to provide accurate measurements of hydrocarbon deliveries from large storage tanks at the refinery to waiting tankers at the sea tanker loading terminal.

CHALLENGE

The fiscal measurement of deliveries was being calculated by monitoring tank levels. Although the company had installed the latest level measurement technology, the measurement errors were considered to be unacceptable. The inaccuracies were affecting both taxes paid and profit margin, with the average margin of error calculated by API at 0.5%. API needed a turnkey metering solution that would increase the accuracy of fiscal measurements at the tanker terminal.

SOLUTION

Emerson provided a metering skid based on its Micro Motion® Coriolis mass flow meters. The skid was provided fully complete,

➔ www.micromotion.com



For more information:
www.emersonprocess.com/solutions/
www.micromotion.com



requiring API to only construct a base and connect the inlet and outlet manifolds.

The design paperwork and certification were provided by Emerson as well as technical support throughout all phases of the project. Emerson liaised directly with the Italian government's Metric Office, who provided final verification that the measurement accuracy complied with the relevant legislation. The full range of Micro Motion ELITE® meters have also been certified in accordance with the new MID (Measurement Instrument Directive).

Coriolis meters are ideally suited to fiscal applications since they measure mass and not volume, and the results are not affected by environmental influences such as temperature. The Coriolis meter can also convert the mass reading into a standardised volume using temperature from an external RTD.

Coriolis meters also provide improved performance under entrained gas conditions and can also measure bidirectional flow, eliminating the need for bidirectional manifolds, motor-operated valves, strainers, and air eliminators.

Emerson's skid based solution is extremely user-friendly for operators and it has simplified procedures for fiscal declaration. It has also made it much easier to create the documentation to accompany shipments and reduced the overall amount of paperwork to be processed to a bare minimum.

API is extremely satisfied with the results obtained and is currently working on a project to rationalise its sea shipment procedures. Based on this success the company plans to install Emerson's Micro Motion measurement systems to handle all load sizes.



“API is extremely satisfied with the results obtained from Emerson’s Coriolis metering solution”

Dr. Paolo Mangialardo,
Advanced Control Engineer
API, Raffineria di Ancona

© 2011 Micro Motion, Inc. All rights reserved.

The Micro Motion and Emerson logos are trademarks and service marks of Emerson Electric Co. Micro Motion, ELITE, MVD, ProLink, MVD Direct Connect, and PlantWeb are marks of one of the Emerson Process Management family of companies. All other trademarks are property of their respective owners.

Emerson Process Management Micro Motion Americas

Worldwide Headquarters
7070 Winchester Circle
Boulder, Colorado USA 80301
T: +1 800 522 6277
T: +1 (303) 527 5200
F: +1 (303) 530 8459
Mexico T: 52 55 5809 5300
Argentina T: 54 11 4837 7000
Brazil T: 55 15 3413 8000
Venezuela T: 58 26 1300 8100

Emerson Process Management Micro Motion Europe/Middle East

Central & Eastern Europe T: +41 41 7686 111
Dubai T: +971 4 811 8100
Abu Dhabi T: +971 2 697 2000
France T: 0800 917 901
Germany T: 0800 182 5347
Italy T: 8008 77334
The Netherlands T: +31 318 495 555
Belgium T: +32 2 716 77 11
Spain T: +34 913 586 000
U.K. T: 0870 240 1978
Russia/CIS T: +7 495 981 9811

Emerson Process Management Micro Motion Asia Pacific

Australia T: (61) 3 9721 0200
China T: (86) 21 2892 9000
India T: (91) 22 6662 0566
Japan T: (81) 3 5769 6803
South Korea T: (82) 2 3438 4600
Singapore T: (65) 6 777 8211

For a complete list of contact information and web sites, please visit: www.emersonprocess.com/home/contacts/global

