

Micro Motion® Flowmeters Exceed Custody Transfer Accuracy Requirements by 1500%

RESULTS

- Faster truck and train loading - more transactions per day, no loading mistakes or reloading
- Different products processed with same equipment
- More accurate measurement



APPLICATION

An independent storage terminal site provides storage tanks for use by suppliers of oils, chemicals, and gases. The site must be able to receive and load a variety of liquids accurately. Each truck or train must be weighed when it enters the site, and again when it exits.

CHALLENGE

Because the loading and unloading is typically performed by the truck driver, the user interface must be easy and intuitive. Mistakes are costly.

To service multiple loading arms at the site, mobile metering skids are required. Therefore, equipment must be compact, lightweight, balanced, drainable, and usable in hazardous areas, with easy process connections and easy handling. Measurement mechanisms must be robust enough to withstand outside temperatures and frequent moves.

To handle different liquids with varying density, temperature, and viscosity, at different quantities, the meter must be product-independent and the batching support must be both precise and intelligent — a simple overshoot compensation feature could not provide the required accuracy.

www.micromotion.com



Jetty for oil tank storage.



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



SOLUTION

Each mobile metering skid contains a Micro Motion® ELITE® sensor and a Micro Motion Model 3700 field-mount transmitter with the discrete batching application installed. The batch application controls the two-stage Fisher valve, which is also an Emerson Process Management product. The Automatic Overshoot Compensation (AOC) option is enabled in the batching software. This feature enables the self-learning facility of the batching software, for increased accuracy in batch delivery. Some of the skids are completely closed, thermally insulated and equipped with Eexd-approved heating.

To load a batch, truck drivers are required only to specify the target quantity and press the Start button. Other batch parameters are saved in the transmitter for easy reloading and reuse.

Field data show that Micro Motion flowmeters provide skid accuracy of 0.03% of actual mass flow rate accuracy – more than 15 times the accuracy required for custody transfer applications!



Mobile metering skid with Micro Motion sensor.