

Gas Distributor Chooses Micro Motion for Fiscal Transfer of Natural Gas, Saves \$65,000

BENEFITS

- Greatly improved availability of fiscal transfer metering station
- Eliminated costly ongoing maintenance
- Removed the need to periodically recalibrate equipment



PROCESS

A gas distribution utility services accounts in Pennsylvania. Their largest industrial customer uses between 800,000 and 1,500,000 CFH (22,650 to 42,475 m³/h) of natural gas, depending on plant loading.

CHALLENGE

The gas distributor uses a metering station for their fiscal transfer of natural gas. This station had been using turbine meters to measure gas volume. The turbine meters had been damaged several times due to factors such as flow surges, which required the meters to be repaired — a \$17,000 expense. To make matters worse, when these meters were unavailable, the distributor was only allowed to use a lower negotiated usage rate. The distributor also needed to disassemble and prove these turbine meters every year, which was an additional expense they were required to absorb.

SOLUTION

Although the gas distributor's engineering staff were initially resistant to using "new" technology like Coriolis metering (the AGA has only recently approved Coriolis meters for the fiscal transfer of natural gas), they installed a Micro Motion Coriolis meter with a Micro Motion MVD™ transmitter in the metering station. The transmitter communicated via Modbus to the plant's existing Bristol flow computer. The distributor calculated the base volume of the natural gas using the mass flow measurement from the Micro Motion meter coupled with gas compositional information from an upstream analyzer.

The success of this installation will pave the way for the replacement of turbine meters at their other stations.

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This setup has a number of distinct advantages over the historic turbine installation. The Micro Motion meter did not require flow conditioning devices or straight runs of pipe. In addition, an expensive gas lab calibration was not required, and the need for pressure and temperature compensation along with their maintenance overhead was eliminated.

Since installing the Micro Motion meter, the gas distributor has not been forced to use a lower usage rate due to meter unavailability. This improved availability has saved the distributor \$55,000 per year. Because Coriolis meters have no moving parts to wear out or break down, the Micro Motion meter was not susceptible to damage caused by facility flow surges or peak demand loads, and has not required any ongoing maintenance. The distributor believes these factors have saved them an additional \$10,000 in maintenance costs.

Historically, the metering station employed two turbine meter runs and a bypass line. The turbine meter in the primary flow run was replaced with the Micro Motion Coriolis meter and the turbine in the standby flow run is currently used to verify the Coriolis meter. However, the distributor is interested in exploring the Micro Motion patented structural integrity meter verification capability, which allows a Micro Motion meter to perform an automated in-situ verification of its flow calibration factor.

The success of this installation will pave the way for the replacement of turbine meters at several of the distributor’s other industrial customer billing stations.

