CASE STUDY • OIL & GAS

NATURAL GAS COMPANY ACHIEVES LOWEST TOTAL COST OF OWNERSHIP FOR FLOW MEASUREMENT

Customer

Canadian Natural Gas Company

Application

Utility Flow Lines

Challenge

A major natural gas processing facility has three separate 1-in. utility/water flow lines used for chemical batch blending and dilution. The previous method of measurement was to use a a rotameter (mechanical gage), for flow indication only, on each of the lines. This method required a technician to periodically check the rotameters and did not allow control of the process, only manual intervention. The customer estimated the installed cost of a traditional flow measurement at approximately $4500 per point, a cost that was prohibitive.

Solution

The Rosemount™ 3051S Differential Pressure Transmitter with a 405P Compact Orifice was proposed to provide control of the process and to meet the customer's need of ±2% flow accuracy. Reduced engineering, procurement and installation costs were achieved with the 405P, which integrates the manifold, connection hardware and primary into a single cast part. Additional cost savings were realized during installation due to the size of the 405P, a 1-in. wafer style body, which allowed the customer to mount it between existing pipe runs. Minimal wiring costs were incurred due to an existing junction box mounted nearby, requiring just a 10-foot conduit run to the transmitter.

Results

- Total installed cost savings was approximately $1900 per point
- 75% reduction in leak points

Rosemount 3051S Differential Pressure Flow Transmitter

Rosemount 405 Compact Orifice Primary Element

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Overall, the total installed savings were approximately $1900 per point. Lifetime savings will be realized in reduced operating and maintenance costs:

- No moving parts for increased reliability
- 75% reduction in leak points for increased reliability and environmental compliance
- 10-year stability for reduced calibration requirements
- Routine checks eliminated

In addition, controlling the utility lines allowed optimization of their blending processes. They were also able to take advantage of the new 3051S platform. Proof of the 3051S concept in these applications is the foundation for future project work at other sites.

Reduced engineering, procurement and installation costs were achieved with the Rosemount 405 Compact Orifice Primary Element, which integrates the manifold, connection hardware and primary into a single cast part.

Controlling the utility lines allowed optimization of their blending processes.

Rosemount 3051S Differential Pressure Transmitter with 405P Compact Orifice

For more information, visit
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