Panametrics

Application note

Alternative flare gas meter installation to maintain safe operations

Summary

A major gas processing company in the UAE, was experiencing difficulties in monitoring their flare gas header due to malfunctions on the installed flowmeters. The customer wanted to avoid shutting down their operations to address the problem, a safe and balanced solution was presented that allowed operations to maintain production.

Application

- Line size: 84" flare gas header with a 1 path diagonal 45° existing ultrasonic meter
- Flow Velocity: 0.09 – 80 m/s (0.3 – 262 ft/s)
- MW: 19.79 g/mole

Challenge

The customer had an alternative ultrasonic flowmeter to monitor the 84" flare header in one of the main processing plants. However, the instrument didn't perform as expected. The main pain point was underperformance at normal and low flow conditions. Despite several attempts to rectify this issue, the flow meter provider couldn't reach to an acceptable level of performance.

Since the customer couldn't cope with a plant shutdown to modify the piping hardware for a new flowmeter installation, Panametrics needed to find a suitable solution.

Benefits:

- Accurate and reliable measurement
- Ability to fit into the existing hardware without process interruption
- Absence of pressure drop

Solution

Panametrics provided the customer with replacement flare flow meters. They were able to offer a solution to install the instrumentation using existing nozzles & isolation valves. The package consisted of T5 50KHz transducers connected to a XGF868i transmitter. The new equipment stayed under observation for six months.

After this period, the customer confirmed that the Panametrics technology gave stable and accurate flow readings. This enabled them to improve the measurement accuracy of the gas quantities being flared, which is a requirement from an environmental compliance perspective for reporting purposes. They now have a better mass balance of the plant. That is also helping them to have better visibility of their targeted flaring reduction thanks to a more reliable measurement. And finally, increase their operational safety.

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