

Application News

Magnetic Flow Meters Improve Recycling of Gas Well-produced Water

Industry: Oil & Gas

Service: Flow Rate/Total

Fluid: Water

Overview

As old gas & oil fields play out, newer methods must be used to extract resources from areas where they are locked in layers of shale. One current technique is known as "fracking," in which high pressure water is pumped into the well shaft to "fracture" the rock layers, allowing more natural gas to escape and be collected. However, this technique poses a number of environmental problems, including contamination of water with hydrocarbons, solid particulates, and scale producing ions — making it unsuitable for reuse.

Situation

A leading energy services company uses a proprietary process to treat oilfield-produced water. The combination of technologies required for this process is customized for each drilling location. Mobile processing units housed in semi trailers can remain at remote sites for extended periods of time.

For measuring the flow of oilfield-produced water, the energy services company needed equipment that could withstand grit and chemical contaminants. It also required flow meters with low pressure drop.

Solution

Flow Technology's EL500 Series electromagnetic flow meters proved to be an ideal answer to the customer's demanding water treatment requirements. These meters allow accurate flow measurement in small line sizes with very low flow rates, and with no moving parts, provide reliable operation.

MC106B panel-mount transmitters were selected to complement the EL500 meters. These economical transmitters can be integrally or remotely mounted to the flow meter, with the added capability of programming through faceplate push buttons.

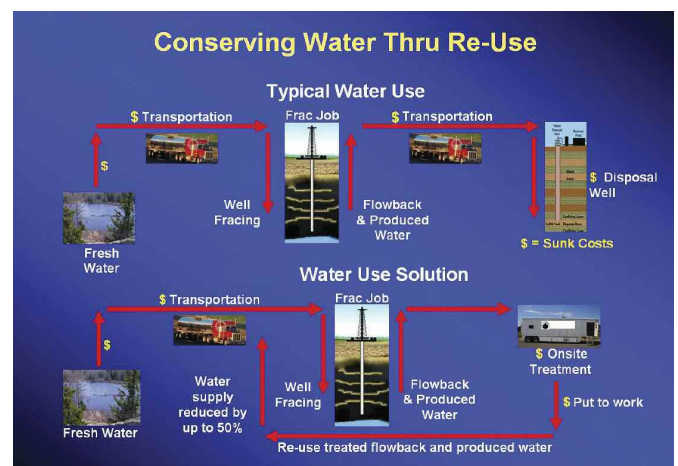
System Description

A total of four EL500 flow meters and MC106B transmitters were employed for each mobile system to measure input and processed water at different stages of treatment. The EL500 meters offered key advantages such as: wide flow range, low pressure drop, chemically-inert Teflon liner, and 316 SS fittings and electrodes. The meters have a non-obstructed flow path with no moving parts, resulting in virtually no pressure drop and long service life.

The MC106B transmitters offered the convenience of a panel-mount design, and provided the display and flow signals required during the water treatment process.

Technical Information

Flow Meters (Model Number): EL500-015ATCCSPLAA
Electronics (Model Number): MC106BCVH3D4Q21N
Flow Rate: 1-25 GPM
Fluid: Water



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