

Emerson Provides Turnkey Wellhead Automation Solution for Marcellus Shale Play Producer

RESULTS

- Emerson's turnkey wellhead automation solution eliminated integration issues
- Real-time monitoring provided customer with accurate production information
- Schedule time was minimized and allowed customer to begin producing quickly
- Scalability of well pad instruments reduced costs
- Automation costs per well were reduced
- System flexibility allowed use for both gas and produced liquids



APPLICATION

Well pads for free-flowing liquids-rich wells in shale plays

CUSTOMER

Independent oil and gas producer in Marcellus shale play, Southwest Pennsylvania

CHALLENGE

The producer installs up to 35 shale play well pads per year, each normally consisting of six to 15 free-flowing wells with high velocities and pressures and no artificial lift required. The wells have high levels of produced water, natural gas liquids (NGL) from the formation, and problems with contaminants from frac sand during early production. The producer has been experimenting with different designs for separation because of difficulty in managing. Produced gas is piped from the site, whereas the water/NGL are trucked off-site to processing facilities. The producer requires absolute truck schedule certainty and has limited resources to monitor the wells. Manpower for on-site well monitoring and data

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CHALLENGE (cont'd.)

collection is inadequate in the region because of increased activity, yet regulatory environmental and safety mandates dictate constant monitoring and measurement. Currently, with lower natural gas prices, NGLs are becoming more valuable to the customer and custody transfer accuracy at the truck loading operation is paramount.

SOLUTION

Emerson's Remote Automation Solutions acted essentially as a main automation contractor (MAC) through its EIP, Equipment & Controls, Inc., a 60 year-old company that is highly experienced in the northeast shale market. All common pad functions are brought into a Remote Operations Controller (ROC) panel that can handle the flow, pressure and temperature measurement I/O from Rosemount™ instruments for up to six wells. As pad design changes, additional I/O panels can readily be added.

Liquids tank levels rely on Emerson radar measurement and truck transfer metering with Micro Motion™ Coriolis instruments. With the increased monetary importance of NGLs, the well site can now utilize existing Emerson SCADA system to schedule trucks and reconcile the billing of liquids leaving the site.

Emerson uniquely provides the one-source design, engineering, configuration, installation, calibration and commissioning for the system. Emerson's involvement and integrated instrumentation solution centralizes the equipment and reporting capability to virtually eliminate travel time between well pad sites, allows the pad wells to get online sooner and, with the addition to existing panels, lowers automation costs per well.

Emerson technologies as part of the solution include:

- ROC 800 RTU/SCADA systems
- FloBoss™ flow computers
- Rosemount guided wave radar tank level gauges
- Rosemount 2088 pressure transmitters
- Micro Motion Coriolis flow/density meters
- Fisher™ valves and regulators

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