

# Diagnostic Upgrade with Fisher™ FIELDVUE™ Instruments Pays for Itself in Four Months

## RESULTS

- Increased plant-wide efficiency by 50%
- Reduced valve-related troubleshooting by 80%
- Improved control valve reliability and avoided 36 hours per month of breakdown maintenance
- Saved about \$2,100 USD per month in overtime costs

## APPLICATION

Globe and butterfly valves and one turbo-expander vane controller

## CUSTOMER

Gas processing facility in Colorado, USA

## CHALLENGE

A gas processing plant was the only one of eight within the end-user's network that was operating with an old bus protocol with installation issues. Its complexity meant that operators either needed more training or more support from trained technicians from other plants. With a limited staff and hundreds of control valves in operation, the plant needed a simpler and more robust valve monitoring and data collection system.

As part of a general reliability upgrade, plant managers sought to reduce the downtime of forty one bus-powered control valves that were installed outside and subject to winter temperatures as low as minus 26 degrees Fahrenheit. Improving valve diagnostics would enable more predictive maintenance. The team decided to upgrade the valves' Fisher FIELDVUE DVC5000 digital valve controllers to FIELDVUE DVC6200 instruments with Advanced Diagnostics. At the same time, they'd convert the whole plant to HART®-based communications.

## SOLUTION

Emerson personnel from Applied Control and Lifecycle Services for Fisher products worked with the plant's maintenance team to make the transition during a planned, three-day shutdown.

The plant would standardize on Fisher FIELDVUE DVC6200-HART digital valve controllers with Advanced Diagnostics. The instruments were applied to a variety of valve types to provide critical, frequent data about valve performance.



*“No one does valve diagnostics better than Emerson, and that’s why we standardized on Fisher FIELDVUE DVC6200 digital valve controllers.”*

I/E Technician  
Gas Processing Plant

Before the shutdown, engineers from Applied Control pre-ordered equipment and kitted the required parts by valve tag number. For the outdoor valves, they pre-configured and pre-wired 41 new FIELDVUE DVC6200-HART-AD instruments for quick and easy installation.

When the shutdown began, five Emerson service technicians who are certified on Fisher products worked around the clock to complete the installation in three days. Fortunately for them, the plant already had AMS and ValveLink™ software on its DeltaV™ control system. The combination of smart instruments and software enabled Emerson personnel to collect, analyze, and store valve-performance data.

FIELDVUE diagnostics provided information on each valve's travel, dead-band, friction, seat load, and other parameters. With that data, Emerson service technicians (a) accurately calibrated each valve, (b) diagnosed any problems, and (c) generated baseline signature curves. HART-based diagnostics also enabled plant operators to monitor:

- the pressure of the air supply to the valve
- travel deviation of control signal versus feedback signal
- sticking or seating issues, and
- indicators of packing leaks or process build-up.

With Emerson's help, the gas plant restarted on time with one HART-based network. The diagnostics upgrade has improved the control valves' reliability, particularly in cold weather.

### RESOURCES



#### Lifecycle Services Flyer: Diagnostic Services

<http://www.documentation.emersonprocess.com/groups/public/documents/brochures/d350976x012.pdf>

 <http://www.Facebook.com/FisherValves>

 <http://www.YouTube.com/user/FisherControlValve>

 <http://www.Twitter.com/FisherValves>

 <http://www.Linkedin.com/groups/Fisher-3941826>

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**FISHER™**

  
**EMERSON™**  
Process Management

**“Standardizing on FIELDVUE DVC6200 digital valve controllers has paved our way to predictive maintenance.”**

I/E Technicians  
Gas Processing Plant



*At a gas processing facility, FIELDVUE DVC6200 instruments with Advanced Diagnostics were applied to vane controllers on expander outlet valves.*