

Iowa Plant Saves \$230,000 USD per year with Fisher® FIELDVUE™ Instrument Diagnostics

RESULTS

- Saved \$100,000 per hour by discovering a valve packing leak and preventing an unplanned shutdown
- Saved \$230,000 per year with predictive—not reactive—maintenance and improved control valve reliability
- Used Fisher ValveLink™ SNAP-ON™ customizable software to filter status alerts, identify those coming from critical devices, and prioritize or avoid work orders costing up to \$1,600 each



APPLICATION

Glyphosate Technicals unit

CUSTOMER

Crop-protection (herbicide) production plant in Iowa, USA

CHALLENGE

For one Iowa plant producing 70% of a popular North American herbicide, avoiding downtime is a top priority. Plant managers rely on Fisher A, ES, and EZ control valves in the Glyphosate Technicals (GT) unit, but like all equipment, they degrade with age.

The plant's traditional approach to maintenance was to routinely pull control valves for repair—based solely on their length of service. But in 2011, maintenance personnel at the site began to apply Emerson diagnostics technology. Adding FIELDVUE digital valve controllers and ValveLink software enabled operators to monitor, identify, and respond to instances where a control valve's reduced performance could impact process operation.

SOLUTION

A distillate-receiver-level control valve's FIELDVUE instrument sent a travel deviation alert (>5% for five seconds) to report a packing leak. Typically, upon receiving a critical alert, technicians survey the device to see if any physical issues are impacting its performance. In this case, the valve was installed about eight-inches off the floor behind a header pipe, where it was seldom noticed.

Once aware of the leak, the technicians ordered parts and made repairs during the next outage. Had the problem escalated or gone untreated, it could have caused an unplanned shutdown.

“In some cases, diagnostics data prompts us to take immediate action. But more often, we can plan control valve repairs for the next scheduled shutdown—enabling us to make sure parts are staged (kitted) and technicians are equipped to safely and efficiently correct any problems.”

Tactical Reliability Engineer
Herbicide production plant in Iowa, USA



In 2013, before a scheduled outage of the GT unit, operators conducted diagnostic scans on 40 critical control valves. These tests allowed the reliability technicians to determine which valves needed maintenance—saving a considerable amount of time and money. The combination of FIELDVUE instruments and software enables the team to customize alerts and to proactively plan or predict maintenance.

By 2014, the plant had 50 FIELDVUE DVC6200 instruments in operation. Featuring linkage-less feedback technology, the FIELDVUE DVC6200 units have become the “stars” of its reliability program. Diagnostics technology has given plant maintenance personnel access to all kinds of data, from a benchmark signature curve (generated when the control valve is new) to a real-time report on its current performance. By comparing the two reports, operators can see how a valve’s performance has degraded over time and address any issues before a costly failure occurs.

FIELDVUE instruments feed data through ValveLink SNAP-ON software, which can be customized to filter status alerts and route them to maintenance planners and schedulers. In one case, the alert monitor exposed a drive-gain issue (or the potential blockage on a critical meter measuring catalyst slurry) and reported it to production personnel. It was corrected by backflushing the meter’s sensor tubes to clear the blockage. If this problem had gone unrecognized, it would have impacted the process and cost up to \$25,000 an hour.

A reliability engineer from the site says predictive maintenance capabilities have saved the plant up to \$230,000 per year.

“Just as a football team must protect its star quarterback to keep him in the game, we must protect our critical assets to keep them productive and to prevent costly process downtime. FIELDVUE instrument diagnostics provide that protection.”

Tactical Reliability Engineer
Herbicide production plant in Iowa, USA

RESOURCES

 **Brochure: FIELDVUE DVC6200 digital valve controllers**
<http://www.documentation.emersonprocess.com/groups/public/documents/brochures/d351908x012.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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Emerson Process Management
Marshalltown, Iowa 50158 USA
Sorocaba, 18087 Brazil
Chatham, Kent ME4 4QZ UK
Dubai, United Arab Emirates
Singapore 128461 Singapore
www.Fisher.com

