

Fisher® Digital Valves and FIELDVUE® Instruments Reduce a Refinery's Troubleshooting and Maintenance



RESULTS

- Saved \$135,000 USD on control valve maintenance during the first year in the co-generation area alone.
- Saved \$90,000 USD by improving the performance of a single steam valve and avoiding unscheduled downtime



APPLICATION

30 Fisher® valves with FIELDVUE® instruments in the co-generation area.

CUSTOMER

A refinery in California.

CHALLENGE

Traditional, valve-diagnostic methods at this refinery required up to ten hours (per valve) over several days. Eight different people, from the process engineer to the maintenance planner, might be involved in trying to determine what was wrong with the valve. Was it stroking? Would re-tuning help? Was it noisy, leaking, or failing to close?

Sometimes, these questions could be answered by a visual inspection. Other times, the valve would have to be pulled from the line, opened and/or disassembled, and transported to maintenance for repairs.

Meanwhile, the instrumentation and electrical reliability analyst on site was tracking the costs — about \$4,500 every time a valve was pulled, torn down, and repaired.

Consequently, he and other managers were delighted when Emerson Process Management and its Fisher® FIELDVUE instruments helped take the wasted time and guesswork out of control-valve diagnostics and maintenance. Today, if a valve assembly includes a FIELDVUE® digital valve controller with Performance Diagnostic (PD) capabilities, operators can obtain information about its performance or run diagnostic tests on-line — while the valve remains in service. They can also track or trend valve performance over time and schedule maintenance on an as-needed basis.

“By using available technology to monitor the condition of smart, microprocessor-equipped valves, our maintenance personnel have shortened the amount of time spent troubleshooting. With easy access to information about valve performance, we also make more informed and timely decisions regarding control valve repairs.”

**Instrument & Electrical Reliability Analyst
California Refinery**



For more information: www.fisher.com



SOLUTION

Initially, refinery personnel installed FIELDVUE DVC6000-PD instruments on thirty valves in its cogeneration area. Troubleshooting that used to take ten hours per valve now requires as little as 20 minutes because the DVC6000-PD instrument can tell you what the problem is and how to fix it.

The reduced maintenance time required for those thirty valves led to estimated annual savings of \$135,000 in the co-generation area alone. Since that initial project, more than 950 FIELDVUE instruments have been installed site-wide.

Improving the performance of even one critical-service valve can have a significant economic impact at any refinery. For example, a steam valve at this site was operating erratically, limiting the amount of steam available to the turbine, and reducing electrical power production by 3 to 6 megawatts. The valve's FIELDVUE instrument diagnostics alerted operators to these problems, kept the critical valve operating through the peak-use period, and enabled operators to address valve maintenance at a more convenient time.

Improving the performance of this single valve and avoiding unscheduled downtime saved this refinery an estimated \$90,000.

“Improving the performance of one critical service steam valve, equipped with a FIELDVUE DVC6000-PD instrument, helped us avoid unscheduled downtime and save about \$90,000 USD.”

Instrument & Electrical Reliability Analyst
California Refinery

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