Implementing Proactive Maintenance with Digital Valve Controllers

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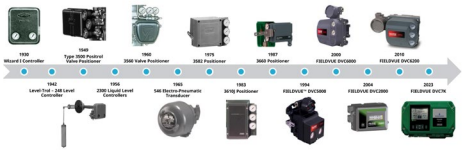
Modern digital instrumentation and communication networks have given plant personnel access to more equipment data than ever, but all that data is only useful if it can be analyzed and acted upon. Our Automation.com article, titled **Converting Smart Digital Valve Controller Investments into Profits**, discusses how busy maintenance teams can make full use of diagnostic data from digital valve controllers, with the help of external service providers as needed.

Digital controller diagnostics

These valves have evolved quickly since their introduction in 1994. Today, they often include a variety of sensors that gather valve diagnostic data. This data can be used to identify degrading performance prior to failure, avoiding plant disruptions and outages.

Fisher Instrument Timeline



No time for proactive maintenance

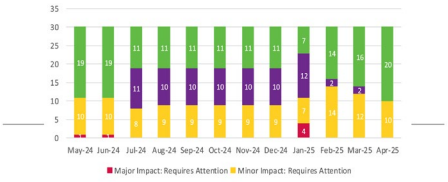
Many maintenance technicians find themselves struggling to keep up with work orders, requiring they prioritize the most urgent and important breakdowns. Many of these breakdowns could be prevented with timely preventative maintenance, but busy technicians often have no way to determine which valves need attention and which can be left alone.

Expert monitoring services

Digital valve controllers provide a wealth of diagnostics, but many plants are not using this data to determine maintenance priorities. External service providers can fill this gap, supporting maintenance teams by monitoring valves, providing regular status reports, and flagging urgent issues.

For example, facilities can utilize remote valve analysts who evaluate real-time valve health data and provide insight on time-based degradation, helping prioritize urgent maintenance and reduce unplanned downtime.

MONTHLY VALVE STATUS



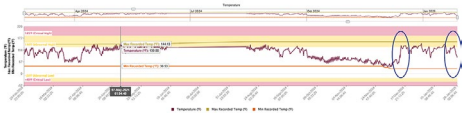
Actionable summaries highlight emerging problems and maintenance priorities, so technicians can focus their efforts where they will have the greatest impact. Expert service providers can detect many issues before they affect production by identifying signs of deterioration, which include changes in packing friction, slow movement, failure to make full travel, or other issues.

Valve monitoring drives substantial savings

At one combined cycle power plant, a small team of technicians was maintaining 200 control valves. The valves used Emerson's Fisher™ FIELDVUE™ DVC6200, which provided extensive diagnostic data, but the team had no time to leverage this information effectively.

The plant decided to try Emerson's Valve Condition Monitoring service to track performance data for the site's critical valves, an investment that quickly paid off. The service identified two valves exposed to high temperatures before any damage occurred. It also detected several valves with travel and friction anomalies caused by severely eroded plugs. In the first year, the service helped avoid valve-related outages that would have cost the plant about $500,000 in lost production.

Practical monitoring solutions



Valve monitoring doesn't need to be complicated or expensive. Many plants already have digital valve controllers and most of the communication infrastructure required to work with a third-party service provider. If your maintenance staff is overwhelmed and valve failures are impeding production, these services can provide your team with the support they need.

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