

Parts Analysis and Diagnostic Tools Avoid Downtime and Save up to \$700K USD Per Day

RESULTS

- Limited duration of planned outages to two days or less
- Saved time by stocking 10% of recommended spares for essential or critical control valves
- Improved valve monitoring to reduce unplanned downtime, enable predictive maintenance, and improve plant reliability



APPLICATION

Drum level, purge, and drain control valves

CUSTOMER

A combined-cycle plant in New York, USA

CHALLENGE

A combined-cycle plant with an 80% installed base of Fisher™ control valves had a limited budget and warehouse space for spare parts. It runs continuously as a base-load plant for the NYC Metropolitan area. If a valve fails and the parts are not readily available, the resulting downtime could be \$700,000 USD per day. Plant managers knew they needed to improve monitoring and stock parts for critical valves.

Lack of information about their installed valves posed a serious risk to plant availability. The plant's maintenance team needed to know the number and location of valves in critical applications. What parts, particularly with long lead times, did they need to have on site to speed up repairs? How could they improve monitoring to reduce valve failures and downtime?

The plant's maintenance team contacted Emerson for help with lifecycle service care and took advantage of asset-management tools including the Fisher Recommended Spare Parts & Pricing List (RSPPL) and Fisher FIELDVUE™ instrument diagnostics. Used in combination, these resources were key to improving their control valves' reliability.

SOLUTION

The initial evaluation focused on valves in drum-level, purge, and drain applications. From the list of 75 Fisher valves in those areas, Emerson services personnel used the RSPPL to identify 1,089 different parts.

Using Emerson's control valve spares analysis and diagnostic tools enabled a base-load plant to identify its critical assets and plan for rather than react to valve maintenance needs. The result was a dramatic improvement in plant reliability and availability.

Removing instruments from the mix left them with 764 valve and actuator parts, which they color-coded (red, yellow, or green) based on two factors—availability and criticality. RED meant the valves were essential to avoid safety issues or plant trips. YELLOW designated important valves that could be down temporarily without sacrificing safety or load. GREEN referred to low-risk valves that could be repaired during the next outage, and they were eliminated from the list.

To further reduce the risk of downtime, the plant standardized on FIELDVUE™ DVC6200-PD digital valve controllers for all critical valves. With performance diagnostic capabilities, the instruments enable operators to run online tests of valve performance, identify problems before costly failures occur, and target valves in need of repair. During a planned outage, operators can compare recent FIELDVUE scans of critical valves to the baseline performance curves they generated during the previous outage. By comparing the two reports, they can identify any degradations in control valve performance.

Using Emerson’s analysis tools, the NYC plant ordered 10% of the parts on the original recommended spares list. The order included a mix of severe service (metal) trim parts, soft parts, new FIELDVUE DVC6200-PD instruments for competitor valves, and mounting brackets. By investing \$117,000 in on-site spares, plant managers avoided downtime costs of up to \$700,000 per day.

Beyond the dollar savings, the lifecycle services evaluation process enabled the plant’s maintenance team to better manage their critical assets and facilitate next-day repairs as needed. Because of this project, they have seen a dramatic decrease in process interruptions.

“Our expanded parts inventory includes Fisher FIELDVUE DVC6200-PD digital valve controllers with performance diagnostics for all critical valves. These instruments have enhanced valve monitoring and predictive maintenance.”

Operations Manager
Combined-Cycle Plant



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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