European Manufacturer Updates Cracker and Finds Improved Protection

RESULTS

- Strong product history and partnership simplifies upgrade
- Improvements simplified by enhanced functionality such as analysis of high-resolution waveforms and spectra data
- Improved potential for future predictive maintenance

APPLICATION

Protection for turbines, compressors, gear boxes, and other equipment related to a cracker at a light petroleum production site.

CUSTOMER

A large European chemical manufacturer supplying raw materials to produce plastics, fibers, detergents, and more.

CHALLENGE

Upon notification from Emerson, a European chemical manufacturer learned that their successful 20-year-old equipment protection system (branded epro, which became Emerson in 2009) was about to retire. In addition, local laws required that after 20 years, the manufacturer must stop using the equipment to evaluate its lifecycle.

Emerson's protection system had helped the customer in the past avoid catastrophic machinery failures and the associated risk to personnel and the environment. For many years, they had good access to spare parts and expertise.

If spare parts for the system became rare, the process would be exposed to potential slowdowns or shutdowns related to machinery in which rotating parts carry weights of 30 to 500 tons and spin at 3000RPM (Europe), 3600RPM (US). They also knew that a retrofit and upgrade to current functionality would be needed to fit with their growing interests.

"We like to stay in touch with Emerson's qualified personnel to get regular updates on product lifecycle changes. We get information early enough to plan and schedule retrofits without difficulties. Also, we can more easily manage spare-part requirements because we know about product short- and long-term plans."

Project Manager

AMS

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SOLUTION

In 20 years, the customer and Emerson had built a strong relationship. Product satisfaction and trust formed the foundation of the decision to move forward with the retrofit and upgrade of the existing digital overspeed protection system (DOPS), machinery protection system (MMS 6000 system), and eddy current measurement chains (CON0x1 with PR642x).

This cracker project included the AMS 6500 ATG protection system, AMS 6300 SIS, and AMS EZ 1000 measurement chains. The protection system allows data recording for high-resolution waveforms and spectra data that can be made available to analysis tools, specifically AMS Machine Works and AMS Machinery Manager. Installation was simplified thanks to Emerson's protection system universal hardware concept and small size for cabinet mounting. And continued benefits include reduced spare-part management costs.

Although the project relates to retrofitting the protection system, the customer also realizes the benefits of a prediction system -- the unit can protect as well as predict. So not only can the customer shutdown a machine that has exceeded protection parameters, they can track the development of the issue and determine when to address the problem.

"We benefited from the project's open and direct communication with Emerson's project team. It gave us the flexibility to review the technical implementation early enough to make modifications more easily."

Turnaround Manager

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