Case Study

Process improvements and cost reduction through reliability enhancements

"Forming a partnership with ABB, we have accomplished production performance improvement and reduced maintenance costs. Our results are a continuing and sustainable process that will pay lasting dividends."

Maintenance Manager, Southeast Chemical Plant

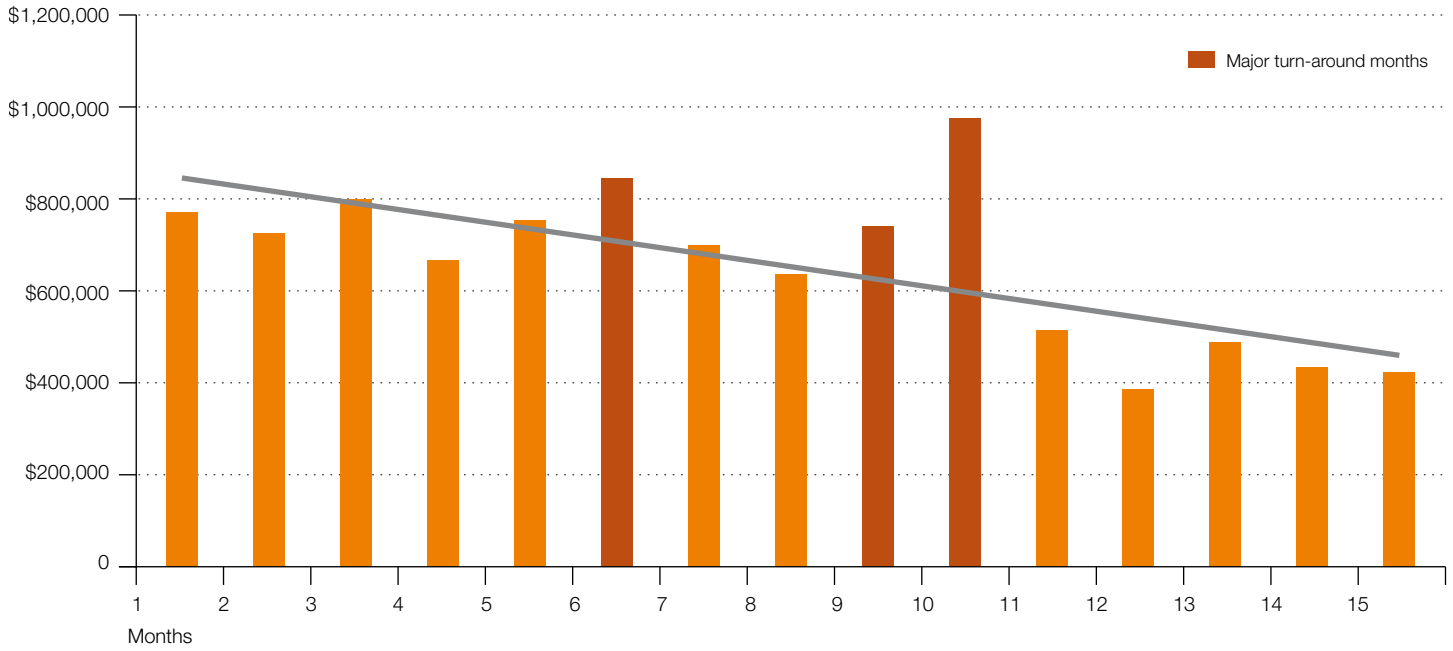
Business Challenge

Although a Southeast chemical plant was well-staffed, had high equipment productivity and was growing, the operating costs in an increasingly competitive market were reducing profit margins. High production levels were funded by high maintenance costs due to emergency change-outs, poor reliability and less than optimal asset life. Core repair maintenance work was completed by contractors, and plant reliability was more attributable to new equipment than strong reliability practices.

Solution

ABB Reliability Consulting was selected to work with plant personnel in improving performance. By combining an internally developed assessment process with ABB's World-Class Reliability® Benchmark and database, the client began identifying improvement opportunities. A multi-year plan was created, with a focus on linking core competencies with documented processes and procedures. In addition, a decision was made to convert those contractors working in critical areas to employee status.

Third-party maintenance labor expenses



This graph shows reduced third-party maintenance labor expenses (Chemical Plant, Southeastern USA)

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Improving maintenance practices

Along with continued equipment investment, the chemical plant and ABB focused on a broad number of improvement opportunities: maintenance repair estimating practices, work scheduling meetings, work execution, history documentation, and the use of internal focus groups to implement and sustain improvements. The client also empowered and defined the roles of its Maintenance Coordinator positions within each operating unit. As a result, Maintenance and Operations are now working hand-in-hand. Major improvements in maintenance practices and repair procedures resulted in reduced break-in work, increased schedule compliance, decreased backlog levels and reduced contractor costs.

Increasing plant reliability

The chemical plant's Maintenance Manager collaborated with engineers and superintendents within the operating groups to improve and standardize reliability practices. Bad actors were identified and attacked through targeted preventive and predictive maintenance practices. PM procedures were reviewed and optimized after years of neglect. With the new priority placed on preventive and predictive maintenance, compliance rates rose to more than 85% and are targeted for continued improvement. Mechanical and electrical engineers with interest in reliability were identified and organized as a team to address site-wide issues. Best practices now drive equipment reliability.

Excellent Results: Reduced Maintenance Labor Expenses and Improved Preventive Maintenance Compliance

In just two years, a solid maintenance and reliability foundation has been built and is delivering desired results: reduced labor costs, heightened focus on equipment maintenance, and improved plant reliability. The improvements are ingrained in the plant's culture and are sustainable.

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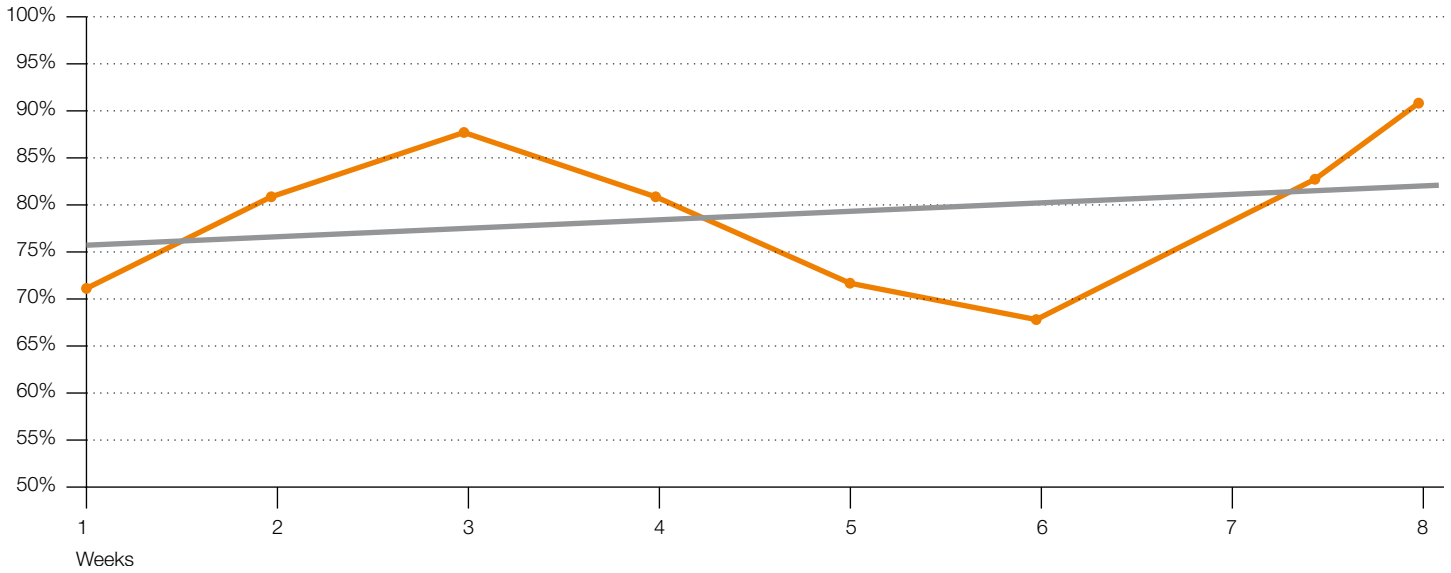
Preventive Maintenance (PM) schedule compliance



This graph shows improved Preventive Maintenance compliance (Chemical Plant, Southeastern USA)

ABB Inc.
579 Executive Campus Drive
Westerville, Ohio 43082
USA
Phone: 877 234 6756
Fax: 614 818 6557
Reliability.services@us.abb.com