Case Study: Chemical Company
Reliability Centered Maintenance Cost Reduction and Planned Maintenance Optimization

As much as 43% of unplanned downtime is caused by equipment failure. In the first year of addressing this issue, a chemical destruction company saved $10,990,986 in avoided maintenance costs after GP Strategies’ Planned Maintenance Program Analysis.

Client Description
This company specializes in the safe and efficient destruction of chemical weapons. The company uses innovative technology and techniques to achieve environmentally friendly demilitarization and reduction of munitions stockpiles and has destroyed over 4,000 weapons.

The Challenge
The company was looking for a solution to improve their current Reliability Centered Maintenance (RCM) and Planned Maintenance (PM) program while reducing the costs of maintaining equipment.

GP Strategies® Solution
The company entered into a partnership with GP Strategies to analyze the RCM and PM programs to identify high-performance areas and opportunities for improvement. To gain a comprehensive understanding of the RCM program, information was analyzed from Maximo and Infoworks, piping and instrumentation diagrams (P&IDs), spare parts lists, system design descriptions and vendor documentation, 287 Planned Maintenance Items (PMIs), and a PMI workshop. GP Strategies also conducted interviews from site personnel and escorted field visits to physically inspect equipment.

RCM Program Analysis
As a result of this analysis, GP Strategies noted significant opportunities with a special focus on maintaining Resource Conservation and Recovery Act (RCRA) schedules. With RCM and the addition of Predictive Maintenance (PdM) technology, GP Strategies was able to categorize many tasks on the company’s PMIs as non-value added. These included inspecting couplings on pumps, manually lubing bearings and chains, and checking fasteners for tightness.

In addition, many PMIs were deemed non-value added, and the classification was then confirmed through empirical data. As a result, some PMI dates were adjusted and other PMIs were deleted. The RCRA PMIs remained intact, but were redefined as a failure finding exercise through equipment walk-arounds, given the risk associated to entries.

Impact
Many areas were positively impacted. One area in particular had the highest probability for contamination of the equipment and area, ultimately having the highest level of controls for entry to perform maintenance. For this area, the RCM analysis resulted in the review of 107 PMIs, of which 21 are governed by RCRA. This ultimately improved asset availability by 52 days in this area.

Many other areas had similar advances, improving asset availability by an additional 82 days. As a result of the program assessment, an evaluation found the following return on investment:

- 86% reduction of maintenance cost from “As-Is” PM program when leveraging RCM and PM optimization recommendations
- First year annualized cost avoidance: $10,990,986

Are your Planned Maintenance programs facing cost overruns?
Planned Maintenance Optimization.
The right activities at the right time.

1Large Property Damage Losses in the Hydrocarbon-Chemical Industries, 17th Edition
GP Strategies’ Approach to Maintenance and Reliability Excellence:

Maintenance and Reliability Excellence requires a dedicated focus on best practices and methodologies that provide a holistic and sustainable approach to performance improvement, risk management, and reduced cost of ownership.

gpstrategies.com/solution/technical-engineering/maintenance-reliability

About GP Strategies

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