



## Business Impact

86% reduction  
of maintenance cost

Improved  
asset availability  
by 52 days

\$10,990,986  
first-year annualized  
cost avoidance

# CASE STUDY

## Reliability Centered Maintenance Cost Reduction and Planned Maintenance Optimization

### Situation

As much as 43% of unplanned downtime is caused by equipment failure.<sup>1</sup> 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.

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.

- Analyze RCM and PM programs to **identify high-performance areas** and **opportunities for improvement**.

### 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:

- Facility technical/engineering documents
- Piping and instrumentation diagrams (P&IDs)
- Spare parts lists
- System design descriptions and vendor documentation
- 287 Planned Maintenance Items (PMIs)
- A PMI workshop

GP Strategies also conducted interviews with site personnel along with physically inspecting equipment in the field.

••• Data was collected and analyzed from **various sources**, including documents, diagrams, a workshop, interviews with personnel, and physical equipment inspections.

### 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.

## Business 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
- • • For more information on our approach to MAINTENANCE and RELIABILITY EXCELLENCE, visit [www.gpstrategies.com](http://www.gpstrategies.com).

## About GP Strategies

GP Strategies is a leading workforce transformation partner—one of the few truly dedicated global providers in the marketplace providing custom solutions. We believe our transformation focus, when paired with deep listening, a customer-centric approach, and innovative expertise, enables our clients to routinely achieve superior business and operational results from our evidence-driven and technology agnostic recommendations.

Whether your business success requires a change in employee performance and mindsets, learning technologies, or critical processes, GP Strategies is the transformation partner you can trust.

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