



CASE STUDY

Steel Company:
Bearing Down on Inefficiencies
*Cost Reductions Through Improved
Asset Management*



SITUATION

One of the largest North American steel companies was losing millions of dollars in lost time and production with a bearing issue throughout its plant. Needing a root cause analysis, they called on GP Strategies® for answers and solutions.

The Challenge

Our client, through the analysis of its AMEX quality system data, identified that bearing defects were the leading equipment reliability issue for its 170 machine trains. The causes of the bearing defects were improper or inconsistent installation 55% of the time and alignment issues 60% of the time.

GP Strategies helped this client
save **\$4.3 MILLION** in
BEARING REPLACEMENT
PARTS during the
first full year



GP Strategies Solution

Based on the findings in the client's initial analysis, the team at GP Strategies collaborated with client representatives from the maintenance and training departments, maintenance engineering, and labor relations to create a custom, multifaceted solution.

Initially, a performance improvement analysis was conducted using data and delays from their CMMS. Using Pareto and Root Cause Failure Analysis techniques, the team identified opportunities for performance improvement and recommended the following:

- Establish a vibration analysis program.
- Improve training and procedures.
- Provide additional diagnostic hardware.
- Implement a training program for bearing maintenance and shaft alignment.

Once the areas of improvement and solutions were identified, GP Strategies completed a task analysis, documenting all pertinent job positions, duty areas, skills, and knowledge elements pertaining to bearings and shaft alignment. The data was gathered via direct interviews with designated subject matter experts, including maintenance personnel, supervisors, and engineers.

From the raw data, GP Strategies synthesized the information formulating a listing of each duty area, its related job tasks, and supporting skills and knowledge elements. Each major task area was independently documented with its related core elements. The data was then analyzed to develop a structured report in which GP Strategies provided specific recommendations:

- Training curriculum
- Hands-on training aids
- Training prerequisites
- Training objectives
- Training delivery options

In concert with the client's employees, GP Strategies developed the training materials required to support the performance-based objectives for Bearing Theory and Maintenance and Shaft Alignment. The final deliverables were training programs specifically designed to address the deficiencies found through AMEX. The Bearing Theory and Maintenance course covered theory, lubrication, failure analysis, and maintenance of bearings. The Shaft Alignment course covered theory, methodology, measurement, thermal growth, and couplings.

The courses were piloted with supervisory personnel to ensure the accuracy of the materials. The courses are offered on an open enrollment basis to maintenance personnel and supervisors alike. Addressing the philosophy that "people should not fail when they go to school," the courses cater to various levels of ability and learning styles. The training is presented in such a way that it causes maintenance technicians to think before they act. It also provides them with an opportunity to practice their skills and build up their confidence prior to making repairs in the plant.



Business Impact

In the first full year of solution implementation, GP Strategies was able to save the client \$4.2 million in bearing replacement parts. Significant savings were also realized in equipment uptime, including reductions in human defects. A recent vibration analysis finding showed that out of the 170 machine trains, only 23% needed repairs, down from 90% before the implementation of training. In addition, the client was awarded the North American Maintenance Award for this initiative.

\$4.2 Million 
saved by client in bearing replacement parts

Out of 170 machine trains  **only 23%** = **Down from 90%**
needed repairs before implementation of training

For more information about GP Strategies' **ASSET MANAGEMENT** Solutions, visit

 www.gpstrategies.com/solution/technical-engineering/asset-management/

About GP Strategies

Founded in 1966, GP Strategies delivers performance improvement programs that strategically align with your unique business objectives and differentiate your global workforce, leaders and salespeople to ensure business excellence. Our sole focus is performance improvement, and everything we do, from technical and compliance training to process improvement and human capital technology integration, is focused on helping your organization deliver meaningful results. Visit gpstrategies.com for more information.

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