

Case Study:

Steel Mill Compressed Air System Evaluation

Background

Compressed air is not free. After having to source rental compressors to supplement their compressed air system, a steel mill became all too aware of the cost of compressed air. Furthermore, inefficiencies in the compressed air delivery system were directly impacting the mill's environmental controls, drastically increasing emissions. The mill knew they had problems, but lacked the experience to determine where they should focus their efforts and resources to obtain a solid ROI.



Challenge

Inefficiencies in the mill's compressed air system made it impossible for their compressors to supply the volume of air required to effectively operate the unit's environmental controls. As a consequence, the mill was forced to rent three diesel-powered compressors. The rental units cost approximately \$3 million dollars in rental fees and fuel per year. The mill was concerned with improving compressed air system efficiency and eliminating the rental compressors.

System Review and Correction

Using a combination of traditional and cutting-edge leak detection techniques and equipment, our services team located and tagged nearly 1,000 leaks in the compressed air system. These leaks resulted in a compressed air volume loss of approximately 1,500 SCFM at an annual cost avoidance of over \$200,000.

The data collected, along with issues and trends observed during the review, were used to develop a roadmap for system improvement.

One of the environmental control systems was targeted as the first improvement project as it provided the second quickest ROI while being the easiest unit to isolate and repair. A total of 170 leaks had been identified on the system in question, resulting in an annual cost avoidance of over \$25,000. The cost for our team's recommended system corrections was approximately \$25,000, allowing the mill to recoup their investment in less than 12 months.

Our Custom Solutions department produced robust, tested, leak-free assemblies that were well suited to the operating environment and made installation, routing, and alignment both quick and simple. Members of our services team also supervised all component installation, ensuring proper installation.

Results

Partnering with us resulted in significant benefits to the customer and their compressed air system. Implementing our design change and repair recommendations on the targeted system resulted in a 5% increase in system pressure. Compressed air usage was also reduced by 180 SCFM. A survey of the system following showed no leaks. Continuing to follow the roadmap laid out by our team will allow the mill to eliminate their rental compressors.

Contact us today to learn how you can save money with a compressed gas evaluation:

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