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Malcolm Baldridge National Quality Award 1988 Recipient Globe Metallurgical Inc.

In a tailspin like most other firms in the nation's "smokestack industries," Globe Metallurgical Inc. refused to retreat from the rising tide of imported cheap, commodity-grade metals. While many U.S. makers of ferroalloys (iron-based metals) were closing plants, the Ohio-based company stated its refusal in the most convincing of terms. It initiated a quality-improvement program that has made its products the standards of excellence in the metals industry.

Globe set out in 1985 to become the lowest-cost, highest-quality producer of ferroalloys and silicon metal in the United States. At the same time, the firm shifted its focus from commodity markets, such as steel manufacturing, to the higher value-added markets represented by the foundry and chemical industries and certain segments of the aluminum industry.

Three years later, Globe occupies a quality niche above the competition. Not coincidentally, its share of the U.S. market for high-quality foundry alloys has risen dramatically, sales in Canada and Europe have increased significantly, and profitability has returned.

In quality audits by General Motors, Ford, Internet, John Deere, and other customers, the firm's scores have set records, resulting in certified supplier status for Globe. Foreign buyers also recognize Globe's commitment to quality. When many European traders place an order for magnesium ferrosilicon alloy they specify that the material must be "Globe quality," a standard that other suppliers must match.

COMPANY HISTORY

A privately held company since 1987, when Moore McCormick Resources sold all of its metal-related businesses, Globe employs 210 people at plants in Beverly, Ohio, and Selma, Alabama. The plants produce about 100,000 tons of alloys annually for more than 300 customers. Annual sales totalled less than \$100 million in 1987, but are projected to increase by approximately 30 percent in 1988.

The firm's drive for quality began two years before the leveraged buy out of Globe's current management. In 1985, Globe's managerial staff was trained in statistical process control and, by the year's end, the foundation of a company-wide quality-improvement system -- termed Quality, Efficiency, and Cost (QEC) -- was laid.

ELEMENTS OF QEC

Globe's QEC program permeates the entire company, and goals for quality improvement are integrated into strategic planning and research and development activities. Quality committees exist at every level within the company, and rapid communication scales the distance between top officials, who make up Globe's QEC steering committee, and workers, who participate in "quality circles" that meet weekly. In between in each plant is the QEC committee, composed of the plant manager and department heads, that assembles each morning to review the previous day's performance.

The QEC committee assesses the causes of out of control conditions, reviews corrective measures, evaluates suggestions made by quality circles, and addresses broader quality issues that might be raised by the steering committee.

Now three years into its QEC program, Globe has found no surfeit of good ideas for improving product quality and reducing cost, many of them originating with workers. Improvement measures are carefully tracked, and the results -- successes and failures -- are published monthly. In fact, Globe attempts to monitor and quantify every factor that influences product quality, making extensive use of computer-controlled systems that continually advise workers on whether target values for important processing variables are being met. Key variables are identified through a number of means, including failure mode effects analyses, statistical evaluations that identify production steps that are most prone to failure. Color control charts derived from a system developed in-house document each product's processing history. The charts provide workers, who are trained in statistical process control, with a performance appraisal and customers with important information for their manufacturing processes.

Significant improvements in achieving the targeted grade of metal have been realized since the implementation of the computer-controlled systems, with corresponding reductions in the amount of scrap or reclassified product produced. Today, only about 3 percent of the heats -- including initial batches of new products -- require reclassification. Similarly, greater consistency in final products, achieving specifications that fall within ranges more demanding than those imposed by customers, has significantly lowered the chance of an out-of-specification shipment. The improved consistency of the operation has increased the production rates on the furnaces, while significantly reducing energy consumption, a major cost item for Globe. At the same time Globe has realized improvements in manpower efficiency of over 50% in certain areas.

Customer complaints have decreased by 91 percent, from 44 in 1985, when 49,000 pounds of product were returned for replacement, to 4 in 1987, when no product was returned.

Among workers, who have flexible job assignments and whose quality-improvement efforts are recognized through personal letters from management and small gifts, Globe's QEC program is paying dividends. The accident rate, near the average for the ferroalloy industry in 1985, has fallen, while the industry average has risen. The Globe absenteeism rate has also decreased since 1985.