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Malcolm Baldrige National Quality Award 1995 Recipient Corning Telecommunications Products Division

In the rapidly growing, global market for optical fiber, the Telecommunications Products Division of Corning Inc. aspires to be the best in the industry. TPD already can lay claim to being the first, since Corning's innovations largely led to the commercialization of optical fiber. Yet, TPD continues to pioneer technology and processes that set it apart from its competitors. Believing that customers are the ultimate judges of what is best, the entire organization is focused on customer satisfaction.



The division's Executive Leadership Team (ELT) has integrated the principles of Total Quality into TPD's "Plan to Win" in a consolidating and highly competitive industry. Continually refined and enhanced, the plan embodies six fundamental components: strategic direction; customer focus; formalized systems of process management; a culture of continuous improvement; measurement of progress using the Baldrige criteria; and foundation values of people, processes, and technology. Rather than singling out quality as a distinct element of the plan, the ELT has worked to make quality principles intrinsic to each component and organic to the whole business.

TPD has comprehensively characterized and documented the more than 800 processes employed in all facets of its business. All are operated under a formal system of process management and control. The ELT has designated 50 as "core business processes" meriting special emphasis in continuous improvement efforts. Each core process is owned and managed by a key business leader.

Division capabilities and customer satisfaction are improving in step. In 1993, 86 percent of TPD's direct customers gave it a quality rating of "very good" or "excellent," and four in five rated TPD as their best overall supplier. The division's productivity has doubled over the last seven years, enabling it to be the world's lowestcost producer of optical fiber. Defects have decreased substantially-nearly tenfold since 1991-even as production volumes have soared.

About TPD

With technology developed and patented by its corporate parent, Corning TPD was formed in 1983 to manufacture hairthin optical fibers using pulses of light to carry large amounts of information over great distances. The world's largest opticalfiber manufacturer, TPD serves three distinct customer groups in more than 30 countries: cable manufacturers, who incorporate optical fiber into finished products; end users, who employ the cabled optical fiber to carry information; and jointventure fibermaking companies in Europe and Asia, who TPD supplies with product and process technology.

Nearly 1,200 of Corning TPD's 1,400 employees work in its sole manufacturing facility in Wilmington, N.C. The remainder work in its Corning, N.Y., headquarters

Strategy Driven, Customer Focused

From the division's very beginning, top executives adopted Total Quality Management as TPD's management process. They recognized that, to compete successfully against large, vertically integrated manufacturers, a supplier with new, upset technology would have to deliver superior products. Only through continuous improvement in all facets of its business could the new division distinguish its opticalfiber products on the basis of cost and quality.

Headed by the division's general manager, the ELT has developed a strategydriven, customerfocused system that integrates quality into all parts of the business. Carefully articulated and broadly communicated, the approach directly links TPD's vision, mission, strategy, plans, goals, and individual employee objectives. To drive and track continuous improvement efforts from this integrated, businessperformance perspective, the division uses the Baldrige Quality Award criteria to measure its progress.



TPD's "Plan to Win" describes its approach to conducting business. In carrying out the plan, the division pursues a four-element strategy: satisfying customers, competing effectively in selected markets, building affordable production capacity, and reducing manufacturing costs. To ensure that TPD can ably execute these and other elements of the plan, the ELT continually invests in the organization's three "values": people, processes, and technology.

Customer satisfaction is foremost among TPD's key strategic initiatives. Both motivated and guided by feedback received from Baldrige Quality Award examiners in 1989, the company has developed an integrated approach to interacting with existing and prospective customers. TPD's Customer Response System provides the structure for gathering customer inputs, establishing priorities, and initiating action plans to increase levels of customer satisfaction. Input is collected in a variety of ways-surveys, "report cards," competitive comparisons, focus groups, and other means of assessing customer satisfaction and perceptions of quality. This information is organized in a customer database that is accessible to all employees. The system provides the means to distill key customer requirements into continuous improvement action plans with measurable critical success indicators.

Like the information-driven, computer-integrated manufacturing system linking the many exacting steps that ultimately yield TPD's high-precision products, most formal processes employed by the division are designed to be closed-loop systems. The division's strategic planning process, for example, begins with organizational initiatives and values, which are subsequently aligned with short and long-term action plans, workgroup and unit goals, and the individual performance objectives of all employees. Using surveys and a variety of other feedback mechanisms, TPD measures how well salaried and hourly employees understand the connection between their personal work objectives and the division's key strategic initiatives. Through Goal-Sharing bonuses, employee compensation is tied to continuous improvement, as measured by TPD's five "key results indicators"-customer returns, delivery performance, unit costs, sales, and division profits.

Individual employee contributions to achieving business objectives are usually made in the context of teams. Improvements are initiated, carried out, and evaluated by cross-functional teams that are composed of employees from all organizational levels. In fact, teamwork and interunit cooperation have become standard ways of doing business, resulting in improved information sharing, more rapid decision making, and other operational benefits that foster continuous improvement. At TPD's Wilmington manufacturing plant, for example, operations teams are organized into "communities" of production, engineering, and information services employees. Together, these self-contained teams have full decision-making authority over their process areas.

TPD also has integrated its suppliers into its continuous improvement efforts. For example, all "Level 1" suppliers, who provide the division's most essential inputs, participate in TPD's Supplier Total Value process and serve on input-specific teams that establish quality requirements and monitor performance.

Winning Results

TPD's effectiveness in fully integrating Total Quality into its Plan to Win is tested constantly. Yet over its 12-year existence, TPD reports, it has not lost a single customer. Satisfaction levels among end users-the owners of the communications systems that depend most on the reliability and performance of TPD's products-indicate that plan and its execution are on the mark. In 1994, 98 percent rated the quality of TPD products as "very good" or "excellent," and 99 percent of end-user customers viewed TPD as the industry and technology leader.

Significantly above world-class benchmarks, such ratings stem from many improvements made on many levels. For example, the rate at which products are returned as unsatisfactory has been reduced by a factor of 24 over the last 10 years, while performance in meeting customer shipping requirements has improved tenfold. In turn, the division has strengthened process capability and performance. Last year, TPD reduced manufacturing cycle time by 20 percent, translating into lower costs and more responsive service for customers. And, over the last seven years, TPD has achieved a sixfold reduction in hazardous waste levels. Through these and a succession of other improvements that are increasing organizational effectiveness and performance, TPD has succeeded in increasing sales, market share, and profitability, even though the price of optical fiber has dropped by nearly 50 percent since 1987.

Baldrige Website comments:

baldrige@nist.gov

Date created: 08/27/2001

Last updated: 11/29/2011
