Using Cyclic Planning to Manage Capacity at ALCOA

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ALCOA makes aluminum-tubing products to order. The product lines’ success caused a backlog of customer orders and long customer lead times. This problem was exacerbated by frequent machine breakdowns at a bottleneck operation. ALCOA implemented cyclic planning to improve capacity management. The results were immediate and dramatic. Over eight months, output increased by over 20 percent, almost eliminating the backlog of customer orders. The cyclic-planning implementation resulted in additional benefits throughout the organization, including improved workforce planning and better machine maintenance scheduling.

The Aluminum Corporation of America (ALCOA), founded in 1888, is the global leader in the aluminum industry. ALCOA operates 178 facilities and employs over 76,000 people in 28 countries. The facilities include the engineered product division (EPD) in Lafayette, Indiana, a division that manufactures products engineered from aluminum tubes. Operations at EPD are divided into two parts: the extrusion process and the tube mill. The extrusion process creates the starting stock for the tube mill. At EPD, the tube mill produces to order many products for customers from the automotive, aircraft, housing, and other industries. The production of aluminum baseball bats, moved to the tube mill in the fall of 1994, increased the complexity of operations at the tube mill. The increasing popularity of aluminum bats put pressure on available capacity in the tube mill, result-