



The cost of poor quality can represent 20% to 30% of a company's total revenues. The following case studies demonstrate how Six Sigma Qualtec helped its client achieve breakthrough performance, captures cost savings and increases customer satisfaction.

Straight-line Gluer Efficiency

At a carton-producing facility, the straight-line gluer in use was producing at a rate of 33% below its capacity. The improvement targeted was a 50% increase in Net Efficiency Output (NEO), which would save an estimated \$250,000 annually. Based on extensive statistical and Pareto analysis, it was decided to target downtime and spoilage specifically. There was a strong focus on mechanical fixes and developing and conducting extensive operator training. The completed project exceeded the original goals by 11%, with final results of a 50% reduction in downtime and a 40% decrease in spoilage. This increased Net Efficiency Output by 61%, with savings of \$316,434 from this project. To maintain this new output, control plans were put in place with preventative maintenance schedules and new hire and refresher training programs.

Turn-up Loss

Within a leading paperboard company, a project goal was set to reduce turn-up loss. Turn-up loss data was collected to quantify the opportunities for improvement, including spool loss, lap loss, winder process loss, and quality sample loss as well as to minimize customer complaints from turn-up tape marks, wrinkles, and core marks. The objective was to reduce the current average of 1.01 percent to .90 percent. Six Sigma tools were applied to target problem areas. By improving reporting procedures, the team was able to obtain a .922 percent turn-up loss with an annualized savings of \$89,000.

Recovery Boiler Throughput Report

Within the recovery department of a major pulp producer, operation inefficiencies were found within the two boilers used to convert black liquor into green and then white liquor. The process was mapped and Six Sigma methodology was applied, providing the company with standard operating procedures to measure liquor solids consistently while giving operators a clear view into how the system is performing. This new streamlined operation removed a chronic bottleneck in the production of green liquor, resulting in annualized savings of \$226,000. Based on the new measurement system installed for primary metrics, operators are also able to make refining changes on the control limits, thus decreasing standard deviation between the concentrators.

Paperboard Waste Reduction Sheet-Fed Process

Within the sheet/print/cut process of a leading paperboard company, a project goal was set to decrease waste to 6.5% from the current 7.6% historical baseline average, resulting in an annual cost savings of \$120,000 based on the same level of production. By reusing waste sheets, improving reporting procedures and developing a set of "best practices/procedures," the team was able to obtain a monthly average waste of 4%, resulting in an annualized savings of \$696,000 (assuming the waste would otherwise have remained at the 7.6% average). Additionally, it was recommended to continue the improvements in waste reduction and expand beyond the sheet/print/cut process.