



Rapid Line, Inc.

Victor Kau, Sr. Chemical Engineering Student
Western Michigan University
Project Title: Solid Waste Minimization and Water Reduction

Mr. Victor Kau was assigned to Rapid Line, Inc., located in Grand Rapids, Michigan. The company is a metal fabrication facility that solicits jobs from various types of industry. The company is employee owned and they operate state-of-the-art production equipment and other processes. Major processes at Rapid Line include cad cam design, laser cutting, metal stamping, tube bending and cutting, CNC milling, and metal finishing.

Victor was very successful at reducing the solid waste streams at Rapid-Line. The greatest accomplishment involves locating a recycling vendor that accepted their stock pile of wooden pallets. The vendor also coordinated a pallet returned program that return pallets back to their origin. Other wood packaging waste was placed in a metal container along the curbside of the facility and given away as kindling for firewood. The metal container is usually empty after one or two hours of passing traffic. This wood waste constituted five percent of the waste stream and cost \$210/month for disposal. The intern investigated a baler system to reduce the company's cardboard waste that has a payback of less than a year, and a potential savings of \$1900/year return.

Victor also suggested some changes to the company's five-stage parts washer that not only reduced water usage by 68 percent through countercurrent rinsing, but also reduce the number of rejects due to rust buildup from the current cleaning process. The changes involved the installation of misting nozzles and air-knives. Rapid Line, Inc. is in the process of implementing the suggestion.

