

Project Overview



Industrial Placement

Intern: Damon Mar

Major: Mechanical Engineering

School: University of Kansas

Company: The Dutton-Lainson Company is a manufacturing company that specializes in producing marine, agricultural, industrial, and automotive products. The company's manufacturing division is located at 1601 W. 2nd in Hastings, Nebraska. The major manufacturing processes performed within the facility include machining, die cutting, pressing, welding, brazing, heat treating, plating, painting, and assembly. Products are also packaged, stored, and shipped in the facility.

Project Description: A waste assessment was conducted during the months of June and July of 2007 to identify potential pollution prevention (P2) opportunities, with a goal to achieve a 10% consumption reduction of city water used in non-contact cooling processes. The assessment focused mainly on the facility's brazing and plating rooms. Additional P2 opportunities considered beyond water reduction included improving the facilities compressed air system and general waste reduction.

Pollution Prevention Benefits: Potential benefits related to the P2 recommendations generated from this assessment include city water use reduction, electricity use reductions, and several general waste reductions. Other intangible P2 benefits include improvements in P2 awareness, improved employee safety, reduced regulatory burden, and improved company image as a P2 leader within the community of Hastings.

Results: As a result of the assessment, several P2 opportunities were identified. The following general P2 recommendations made:

- Create a P2 policy
- Identify P2 leaders
- Encourage employee input
- Set P2 goals.

Specific opportunities were also identified, including several which have the potential to reduce water consumption by 15%. The results are reflected in Table 1 below.

Table 1: Savings and Benefits

	Potential Reduction	Annual Savings
City Water	7,969,940gal/year	\$7,460
Electricity	9,750kWhr/year	\$570
Oil-dry	2,250lb/year	\$270
Total annual savings:		\$8,300

All of the identified P2 opportunities represent simple, practical, and cost effective actions that the Dutton-Lainson Company can take to improve its existing P2 practices.