

## **Project Overview**

Lincoln Plating Co.  
Lincoln, NE



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## **The Company**

Lincoln Plating is known as the nation's largest finishing and most successful metal finishing company. This privately held company has extensive plating capabilities, operating over 20 lines and capable of more than 40 finishing processes. Protecting the environment is a critical mission for Lincoln Plating and participation in the P3 program is a significant part of that effort.

## **Summer Projects**

Projects in the summer of 2006 included reducing rinse water use after studying the water conductivity of rinse tanks plant wide, evaluating the current coolant system and making recommendations for optimal performance, and reassessing the recommendations made by past interns to one production line. Lincoln Plating had previously worked with the Partners in Pollution Prevention (P3) Program in 1997 and the reassessment determined the impacts of implemented pollution prevention suggestions presented in the original report, as well as if any of the unimplemented suggestions were still feasible.

## **Results**

Three management reports with pollution prevention recommendations were completed during the summer. The Reassessment Report suggested multiple new methods to reduce dragout and water use on the production line. By analyzing water conductivity data, The Water Conductivity Report recommended more appropriate flow restrictor sizes that would significantly reduce annual water use. Finally, The Coolant System report consisted of a comprehensive analysis of the current system and presented suggestions for optimization. These ideas have the potential to save water and energy by more efficient use of the current system, and by adjusting coolant flow rates, respectively. Table 1 summarizes the pollution prevention (P2) suggestions and their potential savings.

**Table 1. Pollution Prevention Opportunities and Potential Benefits**

<b>P2 Opportunity</b>	<b>Potential Waste Reduction</b>	<b>Monetary Savings and Other Benefits</b>
Change flow restrictor sizes	<ul style="list-style-type: none"> <li>• 3,336,000 gallons of water per year</li> </ul>	<ul style="list-style-type: none"> <li>• \$22,050 per year</li> <li>• Addresses goal for EPA's Performance Track Program</li> </ul>
Use re-circulated, chilled water coolant system with hydraulic unit instead of using city water	<ul style="list-style-type: none"> <li>• 1,800,000 gallons of water per year</li> </ul>	<ul style="list-style-type: none"> <li>• \$11,897 per year</li> <li>• Addresses goal for EPA's Performance Track Program</li> </ul>
Use new dragout reduction measures for Line 55	<ul style="list-style-type: none"> <li>• Reduced water use</li> </ul>	<ul style="list-style-type: none"> <li>• Cost savings associated with reduced water use</li> <li>• More effective raw material usage</li> </ul>
Reduce coolant flow rate in Lines 16-18 coolant subsystem	<ul style="list-style-type: none"> <li>• Reduced kWh usage</li> </ul>	<ul style="list-style-type: none"> <li>• Cost savings associated with reduced energy use</li> </ul>